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PHASE II--INDUSTRIAL AREA GROUNDWATER REPORT ALABAMA ARMY AMMUNITION PLANT

Prepared by:

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
11665 Lilburn Park Road
St. Louis, Missouri 63141

FINAL REPORT
30 November 1981

Prepared for:

U.S. ARMY TOXIC AND HAZARDOUS MATERIALS AGENCY
Aberdeen Proving Ground, Maryland 21010

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EXECUTIVE SUMMARY

This report summarizes the findings of the Phase II survey of the geohydrological characteristics and water quality of the water-table aquifer underlying the Industrial Area and the Flashing Ground at Alabama Army Ammunition Plant (AAAP), Childersburg, Alabama. During the period October 1979 to October 1980, an environmental survey (Phase I) of AAAP was conducted by Environmental Science and Engineering, Inc. (ESE) under contract to the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA). The results of the Phase I survey reported by ESE (1981) indicated that the water-table aquifer underlying these areas was contaminated by nitroaromatic residues as a result of past industrial operations.

As a consequence of the potential for contaminant migration off site, further studies were performed to more clearly define the zone of contamination and extent and direction of contaminant movement. These further studies comprise the Phase II groundwater survey.

Thirty monitor wells were constructed during Phase I. Data gathered from these wells have been reported by ESE (1981). During Phase II, an additional 11 wells were constructed along with two piezometer clusters to further define the characteristics of the water-table aquifer and the potential for vertical migration. Thirteen slug tests were performed to assess horizontal permeabilities. During Phase I, samples from 26 wells were analyzed to define the water quality characteristics of the water-table aquifer. During Phase II, samples from all of the newly constructed wells were analyzed along with samples from each of the 7 wells in which contamination had been observed during Phase I.

Based on the Phase I data reported by ESE (1981) and the Phase II data presented in this report, the contamination status and migration potential have been described. The major conclusions are as follows:

1. The results of the Phase I and Phase II studies indicate that the water-table aquifer underlying the Industrial Area at AAAP contains pockets of nitroaromatic contamination which appear to be localized near discrete sources of soil contamination. These include the sites of the Washer-Flaker Houses within the Southern and Northern TNT Manufacturing Areas and contaminated spoil banks lining the Red-Water Ditch in the Southern TNT Manufacturing Area. Contaminated sediments from AAAP surface water bodies themselves do not appear to contribute significantly to the groundwater contamination. The presence of tetryl in the ground water was confirmed in the sample from only one well during Phase II. Based on the Phase I and Phase II data, the horizontal extent of contaminated ground water from these past industrial activities is confined to the Industrial Area.

2. At the Flashing Ground, nitroaromatic contamination of the ground water was not detected during Phase II and was observed only at the analytical detection limit during Phase I. Most of the groundwater constituents were observed to be at lower concentrations during Phase II due to antecedent rainfall conditions. Small peaks were observed in the Phase II chromatograms, but these were below the detection limits. Only small amounts of contaminants are migrating horizontally downgradient at this location as leachate from the contaminated soil.

3. Nitroaromatic concentrations were diluted during Phase II as a result of antecedent rainfall conditions as indicated by the comparative Phase I and Phase II data. The major contaminants found during both surveys were 2,4,6-trinitrotoluene; 2,4- and

2,6-dinitrotoluene, 1,3-dinitrobenzene, and 1,3,5-trinitrobenzene.

During Phase I (ESE, 1981), several other nitroaromatic compounds, transformation products of trinitrotoluene, were identified in the sample from the most heavily contaminated well (Well P-10). These were 4-amino-2,6-dinitrotoluene, 3,5-dinitroaniline, 2-amino-4,6-dinitrotoluene, 2,4-dinitrophenol, and 2-methyl-4,6-dinitrophenol. These compounds are found in trinitrotoluene manufacturing wastewater and also have been identified as transformation products in trinitrotoluene degradation. These transformation products were detected in Well P-10 by GC/MS screening and, with the exception of 2,4-dinitrophenol, were observed at concentrations an order of magnitude less than 2,4,6-trinitrotoluene, 2,4-dinitrotoluene, and 1,3,5-trinitrobenzene. Their presence would be expected in each of the other wells, but at levels far below detection limits.

4. The general direction of horizontal movement of the ground water in the water-table aquifer underlying the Industrial Area is toward the Coosa River regionally and toward the Red-Water Ditch and Beaver Pond drainage system locally, with a horizontal gradient of approximately 0.01 meter per meter. Horizontal movement rate was calculated to be approximately 2.9 meters per year in this area.

5. Based on the above and the downgradient distance from the nearest contaminated well (Well P-11) to the AAAP boundary, contamination in the water-table aquifer in the Industrial Area will take a total of approximately 230 years to reach the boundary.

6. At the Flashing Ground, the water table slopes to the southeast toward Talladega Creek at a gradient of 0.0275 meter per meter.

The horizontal movement rate was calculated to be 7.7 meters per year.

7. Because of the proximity to the AAAP boundary and steep groundwater gradient, the time required for contaminants to migrate to the boundary is approximately 3 years.

8. Recharge of the lower aquifer (dolomitic limestone bedrock) was calculated to occur at a rate of 95 liters per year per square meter in the Industrial Area. This is equivalent to a vertical migration rate of 0.23 meter per year. Contaminated ground water would require approximately 10 years to migrate to the lower aquifer from contaminated pockets in the Northern TNT Manufacturing Area and approximately 33 years from contaminated pockets in the Southern TNT Manufacturing Area.

1.0 INTRODUCTION

1.1 BACKGROUND

AAAP was constructed during World War II to produce high explosives, smokeless powder, and nitrocellulose for the war effort. After the war, the facilities were retained on standby status until 1973 when they were declared excess to U.S. Army requirements and partially razed.

An environmental survey of AAAP was conducted by ESE under contract to USATHAMA from September 1979 to October 1980. This first phase survey, which involved investigation of the entire 5,168 acres (2,088 hectares), included a groundwater investigation based on sampling and analysis of 30 monitor wells. A summary of the results of the Phase I groundwater analysis (ESE, 1981) is presented below.

> The water table aquifer underlying the Industrial Area is contaminated by nitroaromatic residues and shows evidence of impact from inorganic salts. Two wells, one located in each of the TNT manufacturing areas, contained water more highly contaminated than the water in other wells in the Industrial Area, indicating that the TNT manufacturing areas are the source of the groundwater contamination. One well, located in the Southern TNT Manufacturing Area, contained water of a bright yellow color. This water contained approximately 21 ppm nitroaromatic residues. The principal compounds were trinitrotoluene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 1,3-dinitrobenzene, 1,3,5-trinitrobenzene, 2,6-dinitrophenol, and 2-methyl-4,6-dinitrophenol. The second-most contaminated well, located in the Northern TNT Manufacturing Area, contained approximately 135 ppb of total nitroaromatic residues.
>
> The potentiometric surface of the water table aquifer and the conductivity of the water in this aquifer indicate the presence of significant sources of dissolved solids in both the Southern and Northern TNT Manufacturing Areas, the Acid/Organic Manufacturing Area, the Red-Water Storage Basin, and the west side of the Tetryl Manufacturing Area. A groundwater plume with dissolved solids concentrations above

background levels appears to follow the Red-Water Ditch drainage system toward the Coosa River. The Red-Water Ditch was the principal conveyor of industrial wastewaters during plant operations.

The water table aquifer at the Flashing Ground located in the southeast corner of AAAP contains traces of 2,4-dinitrotoluene (3.6 ppb) apparently derived from the soils of that disposal area. While this concentration level is low, the proximity of the Flashing Ground to the installation boundary indicates potential off-post migration.

1.2 STUDY OBJECTIVES

One purpose of the Phase II study was to provide the information necessary to develop impact mitigation plans for the Industrial Area and the Flashing Ground (Study Area 16). To meet this objective, the groundwater-specific tasks were designed to:

1. Define more precisely the extent of groundwater contamination,
2. Estimate the rate and direction of groundwater movement, and
3. Determine if there is any significant off-site migration of hazardous materials.

In the Industrial Area, seven additional wells and two piezometer clusters were installed to further investigate the water-table aquifer. Water samples were collected from these new wells, plus all wells previously reported to be contaminated, and were analyzed for nitroaromatic compounds. Hydraulic tests were performed on selected wells to determine the rate and direction of groundwater movement.

One new monitor well (Well P-48) was installed in the drainageway downgradient of the Flashing Ground near the southeast property boundary. Water samples from two wells in this area were analyzed to determine the off-site movement of contaminants.

1.3 SITE SELECTION

Figure 1.3-1 shows the location of all the wells drilled at AAAP; Figure 1.3-2 identifies the major surface drainage systems and water bodies at AAAP. Wells P-1 through P-30 were constructed as part of Phase I (Environmental Survey). Wells P-31 through P-48 and piezometer locations C-1, C-2, and C-3 were constructed for Phase II. Although monitor wells are numbered P-1 through P-48, only 41 wells were actually installed; 7 wells were eliminated during the planning phase, and the numbers were not reallocated to avoid confusion in the field program.

Of the original 30 wells sampled and analyzed during Phase I, only 7 (Wells P-2, P-6, P-10, P-11, P-15, P-19, P-20) contained detectable levels of explosives-derived chemicals. The general principle used in site selection for the additional wells constructed in Phase II was to place at least one well downgradient (where possible) from each contaminated well to attempt to determine the extent of contaminant migration. Additional wells were located upgradient of wells known to be contaminated and at other selected locations to further define the water-table characteristics. Table 1.3-1 is a listing of the new wells and the rationale for their site selection.

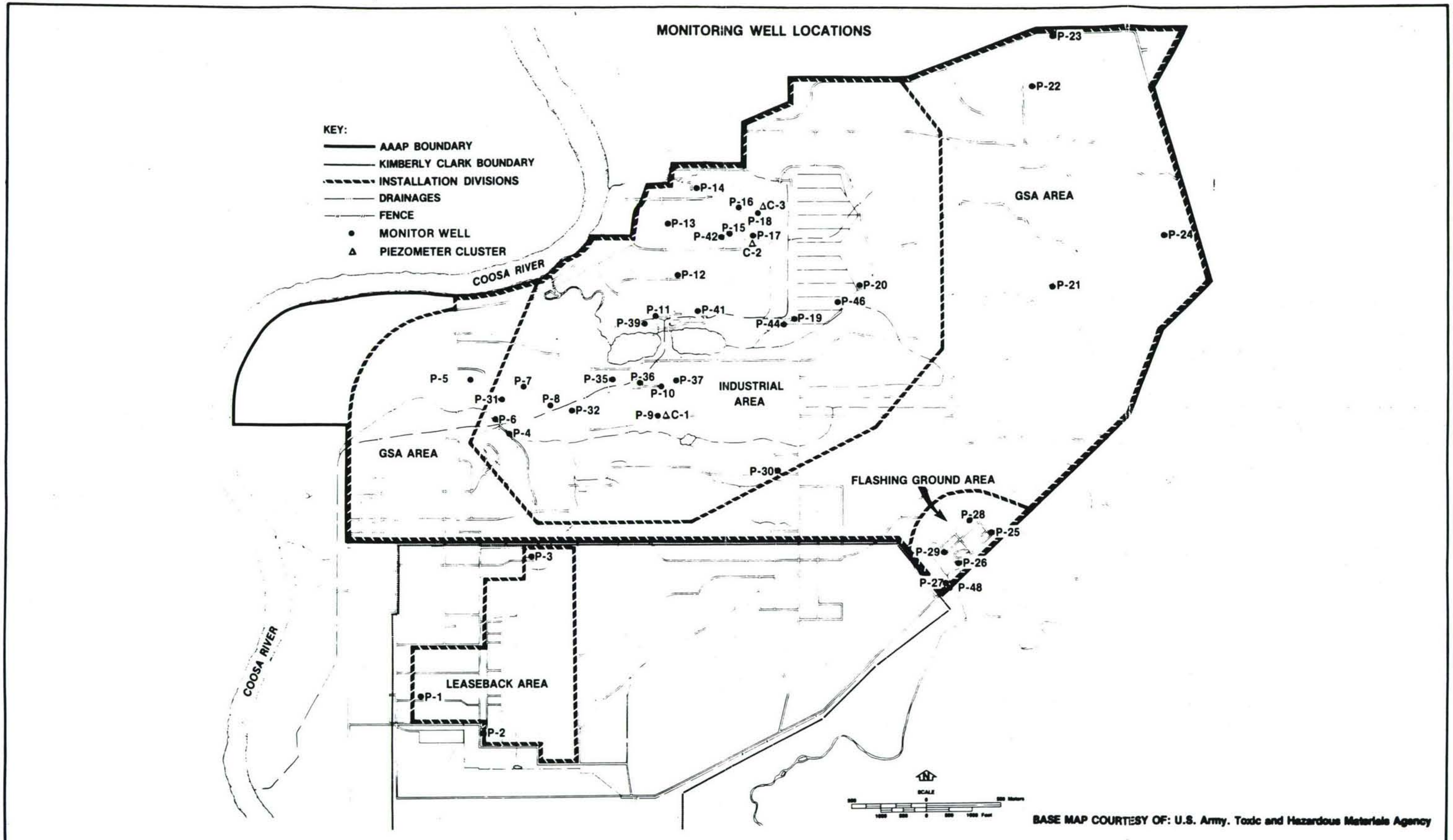
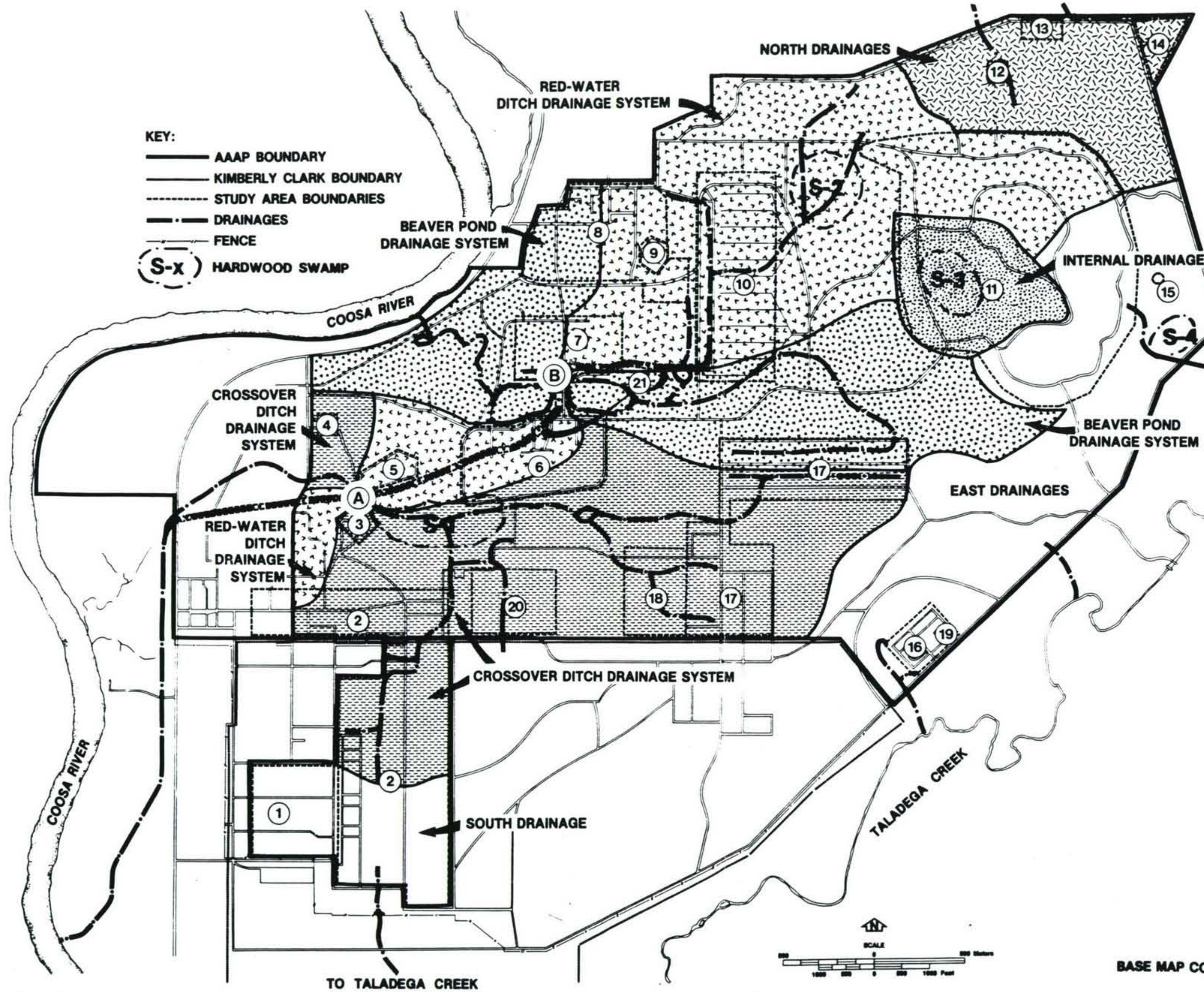


Figure 1.3-1
MONITOR WELLS AND PIEZOMETERS

SOURCE: ESE, 1981.

Groundwater Report Alabama Army Ammunition Plant Childersburg, Alabama	U.S. Army Toxic and Hazardous Materials Agency Aberdeen Proving Ground, Maryland



STUDY AREA	DESCRIPTION
1	Nitrocellulose Manufacturing Area
2	Smokeless Powder Manufacturing Area
3	Inert Material Burning Ground/Sanitary Landfill
4	Manhattan Project Area
5	Red-Water Storage Basin
6	Southern TNT Manufacturing Area
7	Northern TNT Manufacturing Area
8	Acid/Organic Manufacturing Area
9	Aniline Sludge Basin
10	Tetryl Manufacturing Area
11	Magazine Area
12	Old Burning Ground
13	Small Arms Ballistics Range
14	Cannon Range
15	Old Well
16	Flashing Ground
17	Propellant Shipping Area
18	Blending Tower Area
19	Lead Facility
20	Rifle Powder Finishing Area
21	Red-Water Ditch

NOTE:
RED-WATER DITCH CROSSES OVER THE BEAVER POND DRAINAGE AT (A) AND THE CROSSOVER DITCH AT (B) BY MEANS OF A LARGE-DIAMETER CULVERT.

BASE MAP COURTESY OF: U.S. Army. Toxic and Hazardous Materials Agency

Figure 1.3-2
DRAINAGE SYSTEMS AT AAAP
SOURCE: ESE, 1981.

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Childersburg, Alabama

U.S. Army
Toxic and Hazardous Materials Agency
Aberdeen Proving Ground, Maryland

Table 1.3-1. Additional Monitor Wells and Piezometers (Locations Shown on Figure 1.3-1)

Well	Location	Rationale
P-31	Near the northwest corner of the Red-Water Storage Basin (Study Area 5)	Clarify the groundwater flow direction near Wells P-6 and P-7 and determine if contaminants have moved in that direction.
P-32	Adjacent to the Red-Water Ditch (Study Area 21)	Define the relationship between the Red-Water Ditch and the water table.
P-35	Near the end of TNT Manufacturing Line F, downgradient of Well P-10 and the Red-Water Ditch	Determine groundwater elevation and monitor contaminants.
P-36	Downgradient of Well P-10 adjacent to Red-Water Ditch	Monitor the groundwater elevation and measure the extent of contaminant migration.
P-37	At the end of TNT Manufacturing Line H, immediately upgradient of Well P-10	Determine groundwater elevation and monitor contamination.
P-39	Downgradient of Well P-11	Determine groundwater elevation and monitor contamination.
P-41	Near the end of TNT Manufacturing Line F	Determine groundwater elevation and monitor contamination.
P-42	Downgradient of Well P-15	Determine groundwater elevation and monitor contamination.
P-44	Downgradient of Well P-19	Determine groundwater elevation and monitor contamination.

Table 1.3-1. Additional Monitor Wells and Piezometers (Locations Shown on Figure 1.3-1) (Continued, Page 2 of 2)

Well	Location	Rationale
P-46	Downgradient of Well P-20	Determine groundwater elevation and monitor contamination.
P-48	Downgradient of Well P-26	Determine if groundwater contaminants are migrating off site.
Piezometer Cluster C-1	Near Well P-9, upgradient of Well P-10	Monitor vertical head gradients.
Piezometer Cluster C-2	Near Well P-17, at south end of Aniline Sludge Basin (Study Area 9)	Monitor vertical head gradients. (Subsurface conditions forced abandonment of this cluster.)
Piezometer Cluster C-3	Near Well P-18, upgradient of Aniline Sludge Basin (Study Area 9)	Monitor vertical head gradients.

Source: ESE, 1981.

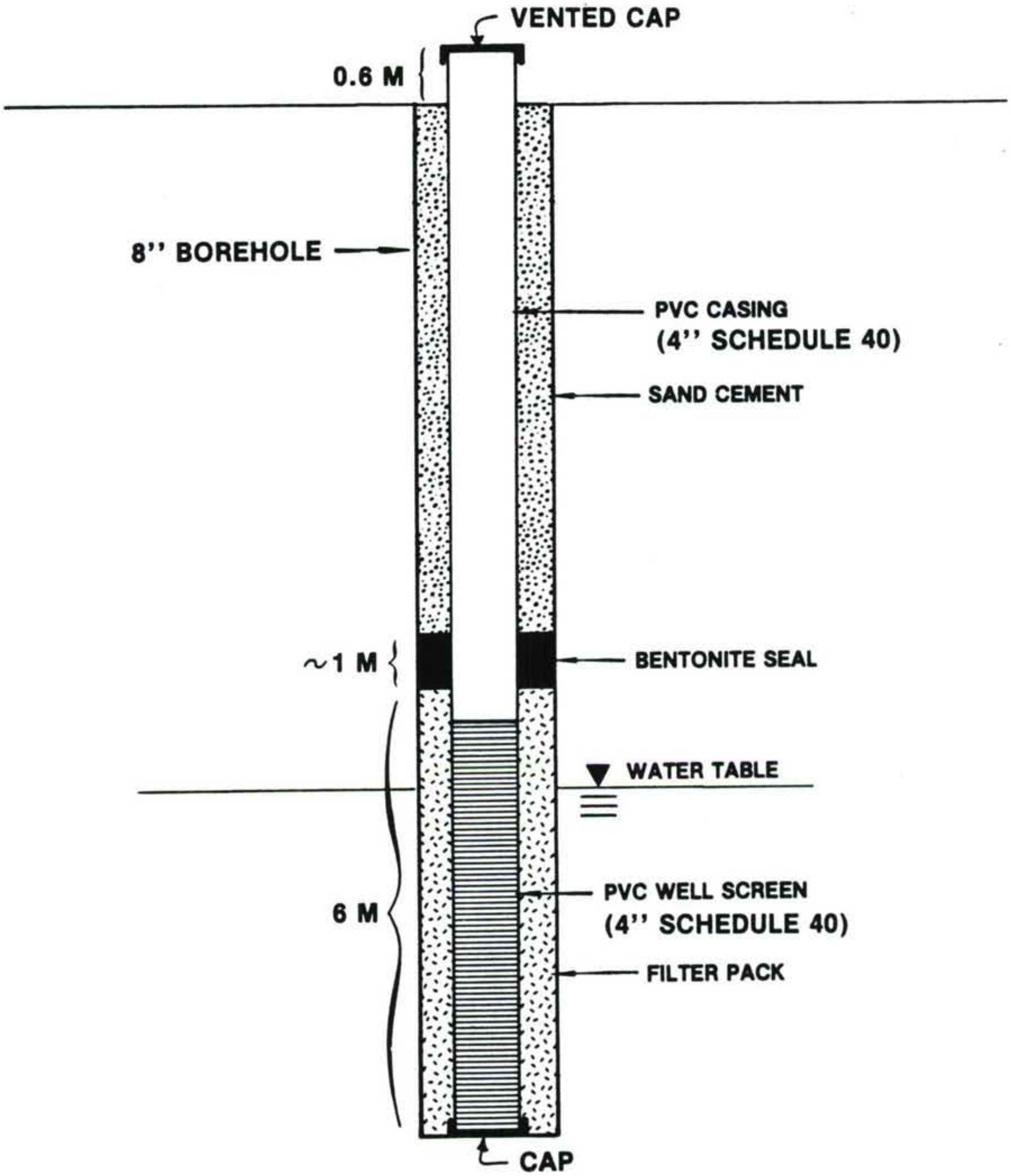
2.0 FIELD METHODS

2.1 WELL DESIGN AND CONSTRUCTION

2.1.1 MONITOR WELLS

All monitor wells were designed and constructed according to the specifications provided in USATHAMA's "Minimal Requirements for Boring Logs, Monitor Well Sketches, and Drilling Operations." Wells P-31 to P-47 (see Figure 2.1-1) were constructed in the following manner:

1. An 8-inch borehole was drilled, using hollow-stem augers, to a depth of 4.6 meters (15 feet) below the water table, or to apparent bedrock, with a maximum depth of 15.3 meters (50 feet). Split-spoon samples were taken every 1.5 meters (5 feet); grab samples were taken at any level where a change in lithology was noted.
2. The top of the well screen [typically 6.1 meters (20 feet) of factory-slotted, 4-inch, Schedule 40 PVC screen with a slot width of 0.010 inch] was set at 1.5 meters (5 feet) above the water table noted during drilling.
3. The well casing extended approximately 0.6 meter (2 feet) above the ground surface.
4. The filter pack of fine to medium sand was placed in the annular space to a depth approximately 0.6 meter (2 feet) above the top of the well screen.
5. Approximately 1 meter (3 feet) of pelletized bentonite seal was placed on top of the filter pack; thus, the top of the bentonite seal extended 1.6 meters (5 feet) above the top of the well screen.
6. The annular space from the top of the bentonite seal to the land surface was grouted with a mixture of Portland cement, sand, and water. The mixture was approximately 2 parts dry-weight sand to 1 part cement with not more than 7 gallons of clean water per 94-pound bag of cement.



(DRAWING NOT TO SCALE)

Figure 2.1-1 **TYPICAL CONSTRUCTION DETAIL OF WELLS P-31 THROUGH P-47** SOURCE: ESE, 1981.	**Groundwater Report** **Alabama Army Ammunition Plant** **Childersburg, Alabama** **U.S. Army** **Toxic and Hazardous Materials Agency** **Aberdeen Proving Ground, Maryland**

7. The well was developed by surging and bailing for approximately 1 hour.
8. Each well was marked with a flagged, 2-meter (6-foot) steel post.
9. USATHAMA's Contracting Officer waived the requirement for protective casing on the water-table monitor wells.
10. After installation, well locations were surveyed to a horizontal accuracy of ±0.3 meter (±1 foot). The top of the well casing was surveyed to ±0.03 meter vertically. Benchmarks used were U.S. Army Corps of Engineers benchmarks on the AAAP site located at installation coordinates 22,000-N/10,800-E and 22,800-N/14,000-E.

Construction of Wells P-1 through P-30 (shown in Figure 2.1-2) was similar to construction of Wells P-31 through P-47 except:

1. The screen in Wells P-1 through P-30 terminated no farther than 1.5 meters (5 feet) from the water table;
2. A bentonite seal was used in Wells P-31 through P-47, and sand-cement grout was placed from the water table to the surface;
3. The screen was 3 meters (10 feet) in length in Wells P-1 through P-30;
4. A silt trap was included at the bottom of several wells (Wells P-1 through P-30) in the first series.

Because the steep terrain below the Flashing Ground limited drilling rig access, Well P-48 was constructed by hand in the drainageway leading off site. Details of the construction of this well are shown in Figure 2.1-3.

During the drilling operation, subsurface soil samples were collected from the monitoring wells. Soil samples were taken at least every 1.5 meters (5 feet) during drilling by ASTM Method D1586-67 (Standard Penetration Test); additional samples were taken when a significant

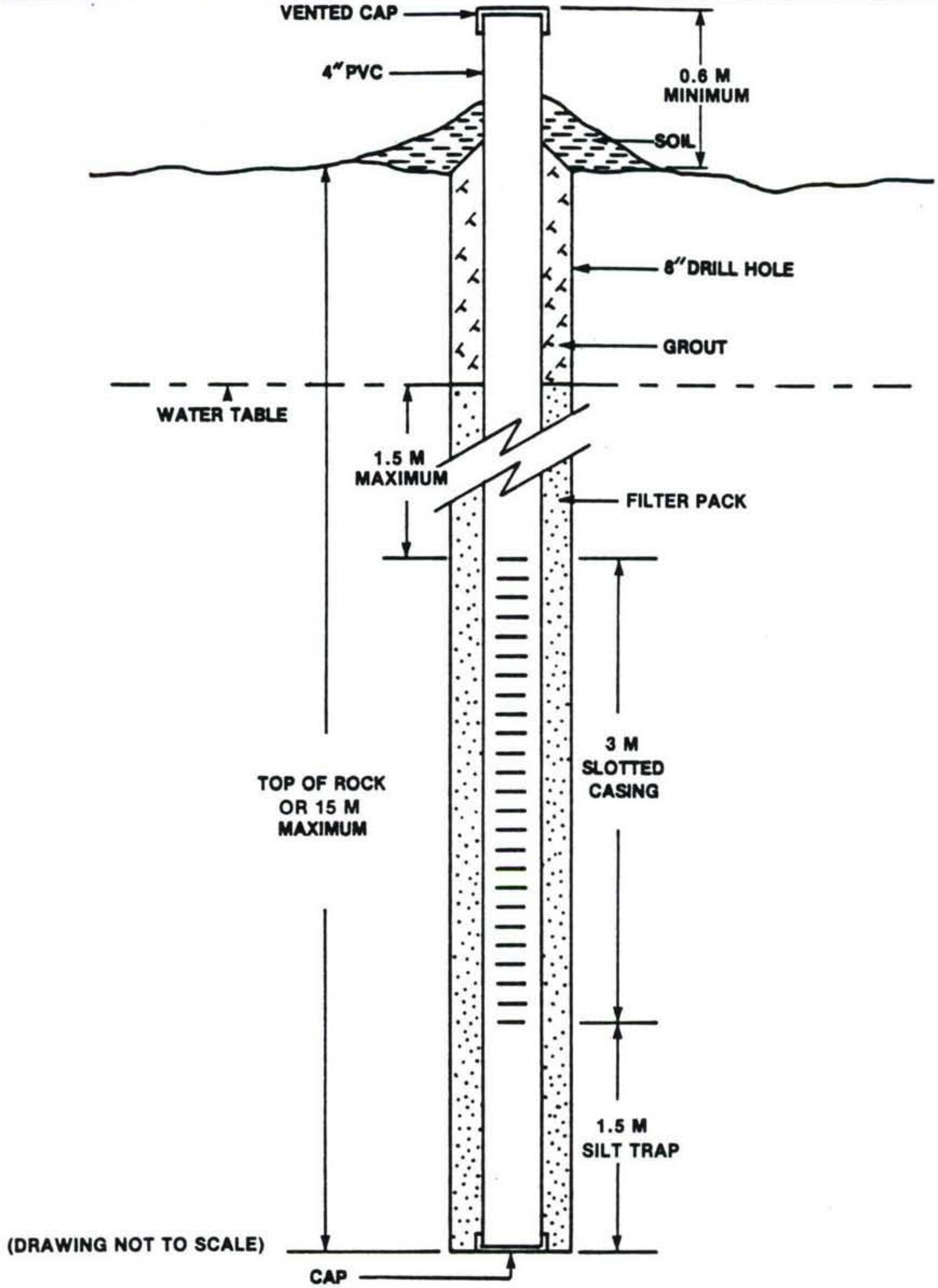


Figure 2.1-2 **TYPICAL CONSTRUCTION DETAIL OF WELLS P-1 THROUGH P-30** SOURCE: ESE, 1981.	**Groundwater Report** **Alabama Army Ammunition Plant** **Childersburg, Alabama** **U.S. Army** **Toxic and Hazardous Materials Agency** **Aberdeen Proving Ground, Maryland**

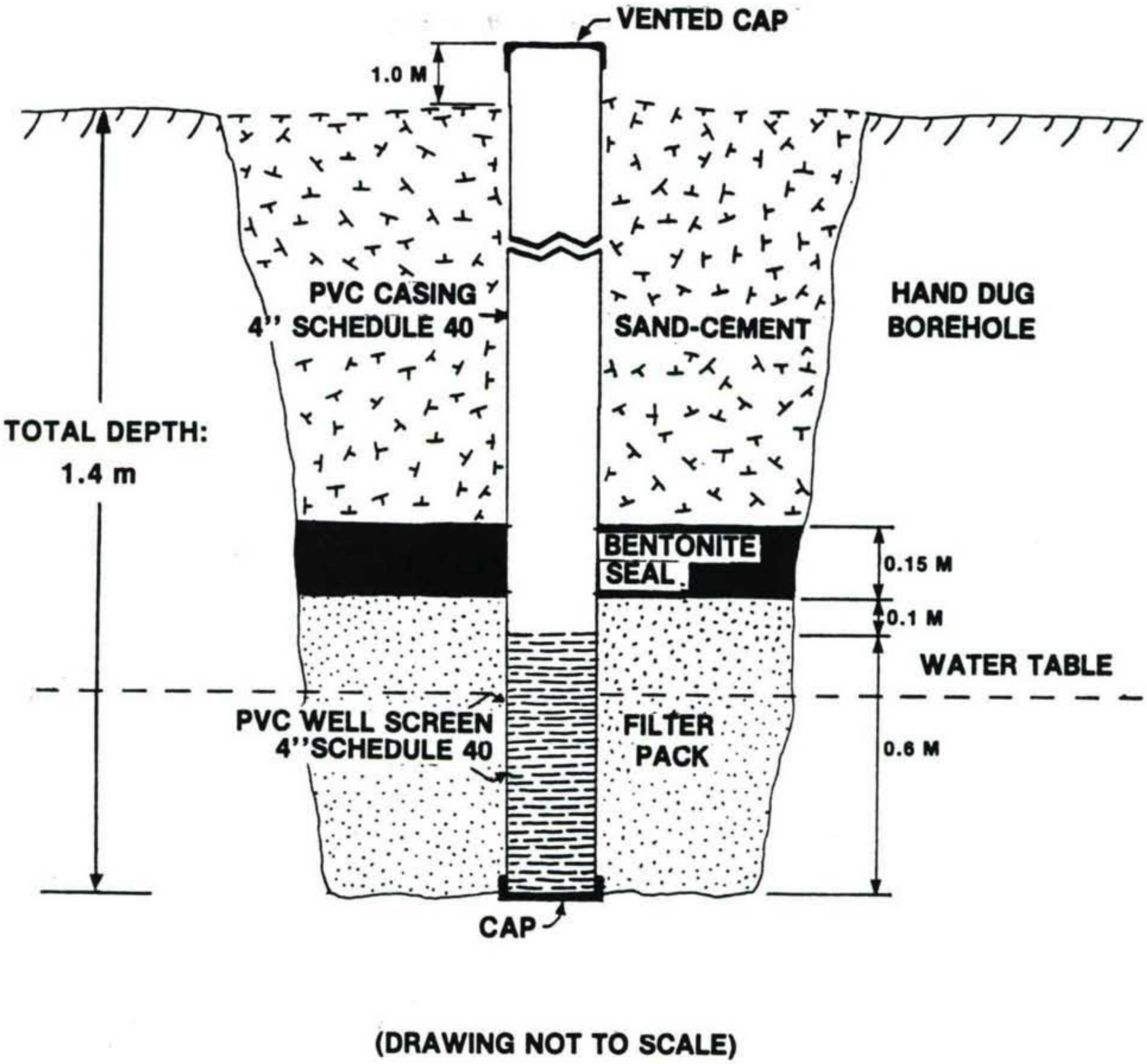


Figure 2.1-3 **CONSTRUCTION DETAIL OF WELL P-48** SOURCE: ESE, 1981.	**Groundwater Report** **Alabama Army Ammunition Plant** **Childersburg, Alabama** **U.S. Army** **Toxic and Hazardous Materials Agency** **Aberdeen Proving Ground, Maryland**

stratigraphic change was noted. All of the subsurface soil samples have been retained for future reference or analysis until completion of the contract.

Detailed well logs were prepared showing stratigraphic and lithologic details of the materials present in the hole. All soil descriptions were made in accordance with the Unified Soil Classification and soil colors identified by the Munsell Soil Color Chart. Original copies of the well logs were delivered to USATHAMA at completion of each well. Field drilling files for Phase I and Phase II are included in Appendix C and Appendix D, respectively.

2.1.2 PIEZOMETER CLUSTERS

Two clusters (C-1 and C-3) of three piezometers each were installed during this study. Each cluster was designed to measure the water pressure (represented as elevation) in a particular stratum. When three piezometers (one deep, one medium, and one shallow) are installed adjacent to each other, the water level in each describes the hydraulic pressure at that depth. If water levels are different in any of the piezometers, it is an indication that potential exists for fluid migration from the higher to lower pressure zones. These clusters were used to assess the potential for vertical groundwater movement.

Piezometer Clusters C-1 and C-3 were installed near Wells P-9 and P-18, respectively, as shown on Figure 1.3-1. During the construction of Piezometer Cluster C-2, geological problems were encountered (refer to Section 2.4.2).

Construction details of the piezometer clusters are presented in Figure 2.1-4. The deepest piezometer in each cluster (average 14.3 meters deep) was constructed first to log the complete geological section to apparent bedrock and determine the thickness of the soil at that point. The shallowest piezometer (average 6.1 meters deep) was

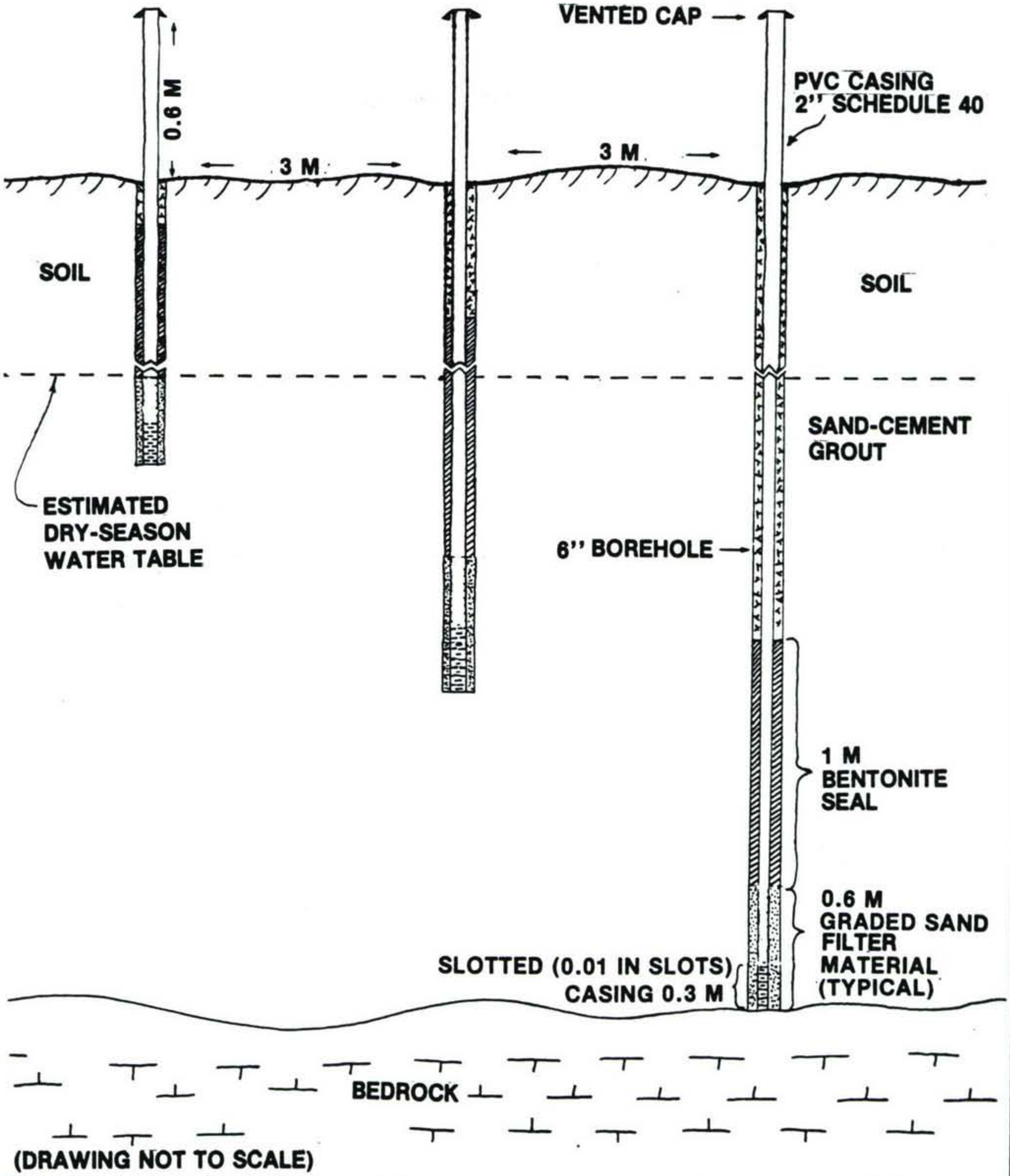


Figure 2.1-4 CONSTRUCTION DETAIL OF PIEZOMETER CLUSTERS C-1 AND C-3 SOURCE: ESE, 1981.	Groundwater Report Alabama Army Ammunition Plant Childersburg, Alabama U.S. Army Toxic and Hazardous Materials Agency Aberdeen Proving Ground, Maryland

installed just below the estimated dry season water table. The third piezometer was placed at mid-depth between the other two.

2.2 GROUNDWATER SAMPLING

Groundwater samples were collected on February 25, 1981. Prior to sampling, each well was bailed to ensure that the sample collected was representative of the native ground water. The bailing was continued until five well volumes were removed, unless the well was bailed dry before five volumes had been removed. For some of the slow-recovery wells, only two well volumes were removed prior to sampling.

All water-level measurements (except slug tests) were made either with electric tape instruments or with conventional steel tape. Water levels were recorded from the top of the casing. Water-level elevations were then calculated. Land survey data were referenced to the top of the casing. Measurements made as part of the sampling effort were made prior to bailing. The tape was cleaned between measurements to prevent cross contamination.

To prevent cross-contamination of the wells during development and sampling, individual bailers which remained in place at every well were fabricated. These bailers were economically constructed of PVC with a plastic ball used as a valve at the bottom. As an additional protective measure, polyethylene sheeting was laid around the well head whenever the bailer was raised to prevent contact between the bailer or its support line and potentially contaminated soil.

Groundwater samples were collected and filtered through a 0.45-um membrane filter within a maximum of 4 hours after collection. However, several samples that were too turbid to be filtered in the field were centrifuged and filtered at the ESE Gainesville laboratory. The following is a list of the wells which were filtered and those which could not be filtered on site.

Wells Filtered On Site	Wells Filtered at ESE Laboratory
P-19	P-6
P-20	P-10
P-23	P-11
P-26	P-15
P-32	P-31
P-39	P-35
P-42	P-36
P-44	P-37
P-46	P-41
	P-48

Specific conductivity and pH were measured immediately after collection. Samples were kept chilled and protected from sunlight during processing. After filtration, the samples were preserved and packed in ice-filled chests at AAAP. Analytical results are presented and discussed in Section 4.2.

2.3 HYDRAULIC TESTING

Groundwater flow, which essentially controls contaminant migration, depends on several factors, including permeability of the aquifer. Because of the contaminated status of wells in the Industrial Area, hydraulic tests known as slug tests were performed on eight monitor wells in this area. Analysis of the slug test data has enabled ESE to define the hydraulic conductivity and permeability of the water-table aquifer. These values, in conjunction with soils data and water-table measurements, have been used to make estimates of groundwater flow rates and directions of movement (see Section 4.1.2).

The slug test is generally used in single-well situations where the permeability of the surrounding soils is too low to run a conventional pump test. During a slug test, a known volume of water (slug) is instantaneously displaced (added or removed), and a record is made of the time required for the water level to return to equilibrium. These

data are then analyzed to yield values of permeability. Because the volume of water displaced during slug tests is small, the permeability values determined are only representative of the soils in the immediate proximity (within a few meters) of the well. Therefore, it is important to make a number of tests in the area to ensure that the values adequately characterize the area.

During field testing, the time-rate relationship of water-level changes was recorded by a Paroscientific® quartz pressure sensor (QPS) and dedicated battery-powered digital signal processor (DSP). The pressure sensor is designed to fit into a 3-inch well and is capable of recording pressure variations of 0 to 900 pounds per square inch (psi) (2,000-foot head variations) with 0.001 psi resolution. The water level was displaced by a 3.5-inch outside diameter (O.D.) Schedule-40 PVC mechanical slug which was approximately 8 feet (2.4 meters) long. The PVC slug was used to displace a known volume of water in the well. The results obtained using this procedure are identical to those obtained by adding or removing a "slug" of water to or from the well. The advantages of using a PVC slug are that potentially contaminated water is not removed from the well and nontypical water is not added to the well. Between tests, the PVC slug was thoroughly cleaned to prevent cross-contamination between wells.

The testing procedure was to record the initial depth to water with an electric tape to determine the volume of water in each well, then lower the QPS to a depth near the bottom of the well. Because the QPS displaced some water volume, the level was allowed to come to equilibrium as recorded by the DSP. Next, the slug was quickly lowered into the well (slug-in test) and pressure measurements were recorded at short, timed intervals (1 second to several minutes) until the water again returned to equilibrium.

After completion of the slug-in test, the slug was quickly removed (slug-out test), and the recording procedure was repeated as a slug-out

test to determine the response function of the well under rising pressure head conditions.

Analysis of the slug test data was based on the method described by Bouwer and Rice (1976). This procedure was selected because it makes allowances for field situations at AAAP where the aquifer is not under artesian conditions and the wells do not fully penetrate the aquifer. The analysis assumes that the aquifer and therefore the coefficient of permeability are uniform over the entire thickness tested. Also, this method takes into account the porosity difference between the filter pack and the aquifer.

Field data for each test were tabulated as elapsed time (t) and change in pressure (Δp), which were plotted on semi-log graphs (t on the arithmetic scale, Δp on the logarithmic scale). Graphs of all wells tested are presented in Appendix A. Hydraulic conductivity was calculated according to the Bouwer and Rice (1976) equation:

$$K = \frac{r_c^2 \ln (R_e/r_w)}{2L} \frac{1}{t} \ln \frac{Y_o}{Y_t}$$

still vague

where: K = Hydraulic conductivity, in feet per second (reported as centimeters per second);

r_c = Radius, in feet; derived from the actual radius of the casing and ~~the porosity and thickness of the~~ filter pack; * radius of well section where water level is rising. See opp. page

R_e = Re-effective radius, in feet; must be solved for using equations and a graph presented in the original paper; effective radial distance over which the head difference is dissipated.

r_w = Well radius, in feet; radial distance between well center and undisturbed aquifer. rc plus thickness of gravel envelope.

L = Length of screen, in feet;

t = Time, in seconds;

Y_o = Pressure at y-intercept on graph, in psi; and

Y_t = Pressure at time t, in psi.

Hydraulic conductivity was determined for all the slug-in (SI) tests and for selected slug-out (SO) tests. Slug-out data for several of the wells are not presented because analysis of the slug-in data indicated that the well had not recovered entirely to equilibrium before the slug-out tests were made. Therefore, any data from these slug-out tests are invalid. Results are tabulated in Table 2.3-1. Work sheets explaining the detailed calculations for each tested well are presented in Appendix A.

The permeability values measured in the majority of the wells (10^{-3} to 10^{-6} cm/sec) are typical of the range of values reported by standard textbook references for mixtures of sand, silt, and clay found at AAAP. The primary reason for the range of values is variations in soil type. Minor variations in sand or silt content, as well as slight changes of compaction, can account for this range of permeabilities. The soils at AAAP show considerable variation from well site to well site, which accounts for the variation of permeability rates.

Well P-11 yielded a permeability rate (10^{-1} cm/sec) considerably outside of the range normally expected in sandy clay soil. This high value indicates the presence of a more permeable zone, although none was reported on the drilling logs. There are two possible explanations for this occurrence. First, even a very small sand lens would conduct a volume of water many times greater than would normally be transmitted by a well surrounded by all clay soil.

The other possibility is that, in areas where clay soils overlie limestone bedrock, a weathered zone often exists immediately on top of the limestone. If this zone consists primarily of rock fragments, or if significant solution features exist at the soil-rock interface, the permeability at the interface will be higher than the permeability of the soil or the rock. The well casing is reported by field notes to be set on bedrock (refusal, by blow count determination) which may be in direct hydraulic contact with the bedrock aquifer. Water-level data

Table 2.3-1. Slug Test Summary

Well Number	Permeability (cm/sec)	
	Slug-In Test	Slug-Out Test
P-6	2.4×10^{-6}	
P-10	8.1×10^{-4}	3.7×10^{-4}
P-11	0.76	0.30
P-26	6.4×10^{-4}	
P-35	2.0×10^{-3}* 3.4×10^{-4}†	
P-37	4.4×10^{-5}	
P-41	3.9×10^{-3}	1.6×10^{-3}
P-44	5.3×10^{-5}* 1.5×10^{-4}†	
Range	0.30 to 2.4×10^{-6}	

* Early time.
† Late time.

Note: The different permeability values calculated for early and late times indicate changes in soil characteristics near the tested well. At Well P-35, the higher value indicates that a more permeable soil zone exists near the well, while the test of Well P-44 indicates the opposite.

Source: ESE, 1981.

from Well P-11 measured on February 11, 1981, show a water-level elevation within approximately 32 centimeters (1 foot) of that measured in the two deep piezometers C-1A and C-3A, which were constructed at bedrock surface.

If Well P-11 is hydraulically connected to a zone more permeable than the filter pack, the slug test results are actually representative of the filter pack material. The 10^{-1} cm/sec rate determined in this test is similar to that reported for clean sands (Terzaghi, 1968) such as that used for the filter pack.

2.4 PROBLEMS ENCOUNTERED

2.4.1 DRILLING OF WELLS P-37 AND P-31

On the morning of January 16, 1981, the drilling team moved to the site of Well P-37 in the Southern TNT Manufacturing Area. The first attempted drilling terminated at 0.6 meter (2 feet) when the augers could not penetrate any farther. The drilling rig was moved approximately 3 meters (10 feet) to avoid the object which prevented drilling, probably a foundation.

The second attempt proceeded well except that the sandy clay soil was very hard (standard penetration blow counts greater than 50 per foot) at every 1.5-meter (5-foot) test interval. Several of the samples were a distinct purple color, not represented on the Munsell color chart. Throughout the rest of the AAAP site few soils required drilling rig blow counts of 50 per foot, and no other boring had consistent blow counts that high.

During the drilling, at about a 6-meter (20-foot) depth, an organic odor was noticed by the crew. When this odor was noticed, drilling was halted and a phone call was placed to the ESE Laboratory/Safety Officer. At that time, some crew members reported nausea and sore throats. On the following day, a faint aromatic odor was noted within 1.5 meters (5 feet) of the hole on the windward site. During the remaining work at

this well, the drillers and geologists were equipped with organic vapor masks to ensure their safety.

After discussion with the USATHAMA Project Officer, it was decided that the well should be constructed with a 0.6-meter (2-foot) clay seal at the bottom of the hole to prevent direct vertical movement of the ground water. However, as the augers were being withdrawn from the hole, approximately 1.7 meters (5.5 feet) of clay soil caved in at the bottom of the hole. A 0.3-meter (1-foot) bentonite seal was placed above this clay, and the well was completed in accordance with the Sampling and Analysis Plan (ESE, 1979).

In addition to the other difficulties encountered at Well P-37, a rope broke during the well development phase which allowed a 2-foot surge block to fall to the bottom of this well. After a lengthy attempt to retrieve this tool, it was decided by staff of both ESE and USATHAMA to abandon the effort. The presence of the surge block in this well does not hinder water sampling by the bailer methods. The surge block is constructed of a steel rod with a rubber belting material plunger. It does not contain any compounds which would interfere with analysis for nitroaromatic compounds.

A similar, but less severe, situation was encountered during construction of Well P-31 (near the west end of the Red-Water Storage Basin). At that location, the drillers experienced nausea, vomiting, and headaches. After a short period of time, they felt better, were issued vapor masks, and completed the well.

Since these incidents, all crew members [Pittsburgh Testing Laboratory, Inc. (PTL) drillers and the ESE geologists] have had full physical examinations which included blood tests. None of these tests indicated any disorder directly attributable to the type of chemicals encountered in the field.

2.4.2 DRILLING OF PIEZOMETER CLUSTER C-2

Piezometer Cluster C-2 was planned for installation near Well P-17 at the southern end of the Aniline Sludge Basin (Study Area 9). The initial drilling proceeded in a typical manner. The soil encountered was sandy clay with medium blow counts to a depth of about 7.6 meters (25 feet), where no sample was recovered. An interval of no split-spoon sample recovery is not uncommon when sampling soil materials that exhibit low cohesive strengths (such as wet sands) or cohesive soils with water contents at or near the liquid limit. After another attempt at collecting a sample at the 7.6-meter (25-foot) depth, the hollow-stem augers were advanced to 9 meters (30 feet) and then 10.7 meters (35 feet), and additional attempts were made to collect a sample. The weight of the drill rods pushed the sampler to a depth of approximately 20.7 meters (68 feet). While the split spoon rested on the bottom, the 140-pound hammer was used to attempt to make a penetration test. No penetration had been made after 100 blows, indicating refusal. The sound of the equipment indicated a very solid base (probably rock). During the drilling, the driller did notice a change in drilling resistance at a depth of 8.4 meters (27.5 feet).

The following morning, after considerable discussion with the USATHAMA geologist, it was decided to pull the hollow-stem augers and construct the best well possible under the conditions encountered. A section of well screen 0.3 meter (1 foot) long was attached to the casing and pushed into the hole to a depth of approximately 13 meters (43 feet). At that depth, considerable resistance was encountered, and to avoid breaking the screen, the insertion effort was halted.

The well was developed and then sealed with bentonite and concrete. Later measurements of water-level fluctuations in this cluster were erratic and unsuitable for use.

The most probable explanation for the void encountered at Piezometer C-2 is that the drilling encountered a cave or incipient sinkhole. The

bedrock under AAAP is limestone which has the potential to develop karst features. The appearance of sink holes has been confirmed in the Childersburg area. A cavern, Onyx Cave, is open to the public and is located within 10 kilometers of AAAP.

2.4.3 SLUG TESTS

Use of the electronic instruments for the precise measurement of water levels was generally very successful. The problems arising were mostly mechanical in nature.

The 3.5-inch by 8-foot mechanical slug was selected to give the maximum possible water displacement in the 4-inch-diameter wells. However, on several occasions, the tight fit between the slug and the casing (1.2 cm) caused the slug to become lodged because it did not allow for slight deflections in the casing or kinks in the sensor cable.

The water level in Well P-39 was low enough so that the bottom of the well contained only approximately 0.9 meter of water. This was not a sufficient quantity to allow testing by this procedure.

3.0 LABORATORY ANALYSIS OF NITROAROMATIC COMPOUNDS

The procedures used to analyze the water samples collected from monitor wells for this phase were identical to those used in the Phase I study. The following sections are reproduced from that report.

> The method used for analysis of nitroaromatic compounds in water was developed from the USATHAMA-supplied tentative gas chromatographic procedure for trinitrotoluene and related compounds in water. A modification of this method using three 2-ml extractions with toluene of a 250-ml water sample was employed for this survey. Three extractions with small amounts of toluene were used rather than extracting once with a larger volume of solvent followed by a solvent concentration step. Preliminary testing indicated that 2,4,6-trinitrotoluene and 1,3,5-trinitrobenzene extracted into methylene chloride were susceptible to thermal degradation during solvent concentration. Toluene was chosen as the extracting solvent because it is a good solvent for nitroaromatic compounds and because it is compatible with gas chromatographic electron-capture analysis (GC/EC). The single toluene extraction was satisfactory for all seven nitroaromatic compounds screened and quantitated using GC/EC. Six of the compounds (2,4-dinitrotoluene, 2,6-dinitrotoluene, trinitrotoluene, nitrobenzene, 1,3-dinitrobenzene, and 1,3,5-trinitrobenzene) were detected using one set of instrumental conditions. Tetryl detection required different conditions and a different column.
>
> All groundwater extractions were performed on samples that had been filtered through 0.45-micrometer (um) membrane filters immediately after collection. Any emulsions that formed during extraction were broken by centrifuging the emulsified portions and drawing off the toluene layer.
>
> <u>GC Analytical Conditions</u>
>
> Two different columns and sets of temperature regimes were required to detect all seven nitroaromatic compounds. Column conditions for analysis of the six selected nitrobenzene and nitrotoluene compounds consisted of a 6-foot by 2-mm inside diameter (i.d.) glass column packed with 3-percent OV-225 on 100/120-Mesh Gas Chrom Q. Tetryl was analyzed on a 3-foot by 2-mm i.d. glass column packed with 1.5-percent OV-17/1.95-percent QF-1 on 100/120-Mesh Gas

Chrom Q. The nitrotoluene/nitrobenzene analysis consisted of a 2-temperature ramp program performed on a Perkin-Elmer Sigma 2 Gas Chromatograph equipped with an electron-capture detector. The temperature program included isothermal hold at 100°C for elution of nitrobenzene, an isothermal hold at 165°C for elution of the dinitrotoluenes and dinitrobenzene, and a final temperature hold at 200°C for trinitrotoluene and trinitrobenzene. A temperature program at 15°C increase per minute was employed between each isothermal hold.

The gas chromatographic behavior of tetryl presented particular problems. Tetryl is sensitive to thermal decomposition on gas chromatographic columns. Because of this behavior, a temperature of 165°C was found to be the maximum allowable column temperature for detection of tetryl. New columns had to be silanized thoroughly by the injection of several 10-microliter (ul) volumes of silanizing agent (Silyl 8) before an acceptable peak shape was obtained for tetryl. Injection of several 5-ul volumes of a 1-ppm tetryl stock followed by several solvent injections also improved the chromatographic behavior of tetryl. Overall, GC/EC analysis was not an ideal method for tetryl analysis but did produce an acceptable linear response and sensitivity for use in this survey.

4.0 TECHNICAL RESULTS

4.1 GROUNDWATER HYDROLOGY

4.1.1 WATER-TABLE AQUIFER

Three water-table maps were prepared from the water-level measurements at AAAP. Figures 4.1-1 and 4.1-2 show the water table on February 5, 1980, and July 8, 1980, during the winter and summer rainy seasons, respectively. After completion of the additional monitor wells, an additional set of water-level data was collected from all 38 monitor wells on February 11, 1981. The water-table map of these data is presented in Figure 4.1-3. The increased number of data points permitted a more precise definition of the water-table conditions, especially in the high-explosives manufacturing area near the Beaver Pond, Red-Water Ditch, and Crossover Ditch drainage systems.

Comparison of the three maps reveals a strong similarity of the shape of the water-table surface in all three situations. The highest land elevations in the eastern portions of the base have the highest water-table levels. The lowest land elevations, also the lowest water table, occur near the western part of the base near the Coosa River and southern base boundary near Talladega Creek. In the center, more level part of the base, the water-table gradient flattens considerably. In the center of the base, ground water in the water-table aquifer flows perpendicular to the contour lines toward the interior drainage system (Red-Water Ditch, Beaver Pond, and Crossover Ditch drainage systems). In the southern part of AAAP near the Flashing Ground, the water table dips steeply to the south and flows toward Talladega Creek.

The area near Wells P-5 and P-7 north of the Red-Water Storage Basin is a topographic divide between the Red-Water Ditch and Crossover Ditch drainage systems and the Coosa River. Apparently (at least seasonally),

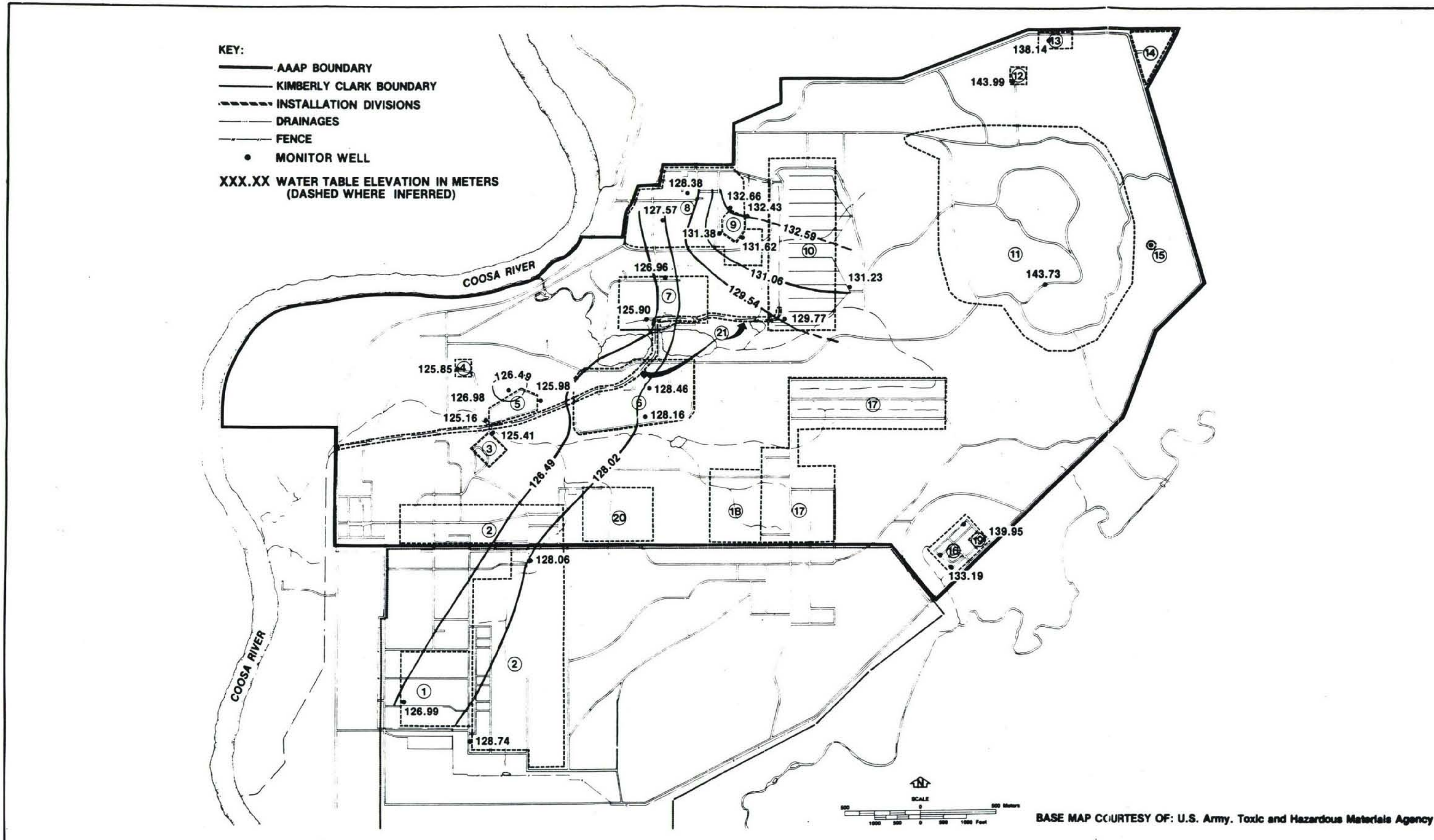


Figure 4.1-1
WATER-TABLE CONTOUR MAP -- FEBRUARY 5, 1980
SOURCE: ESE, 1980.

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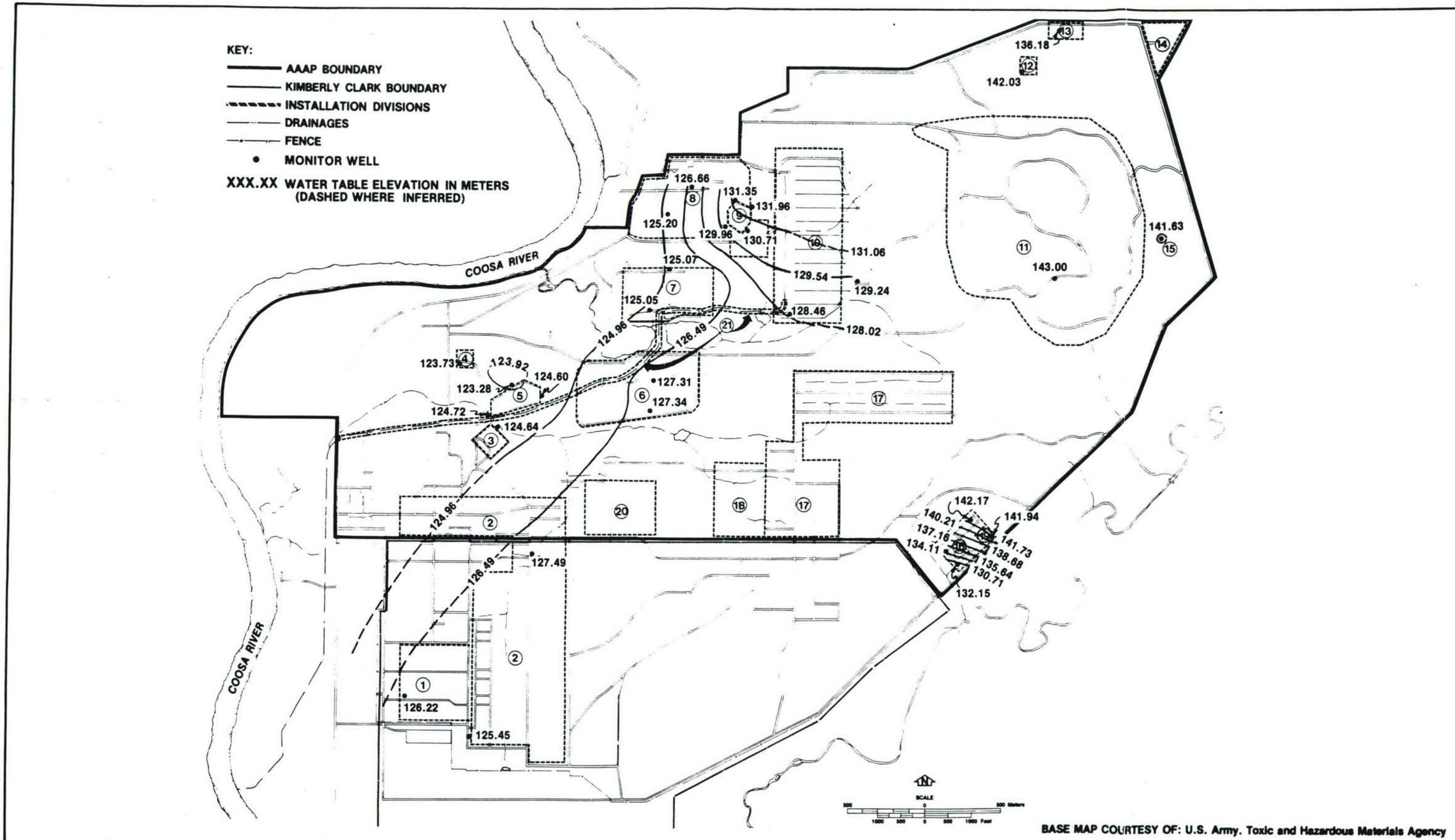

Figure 4.1-2
WATER TABLE CONTOUR MAP -- JULY 8, 1980

SOURCE: ESE, 1981.

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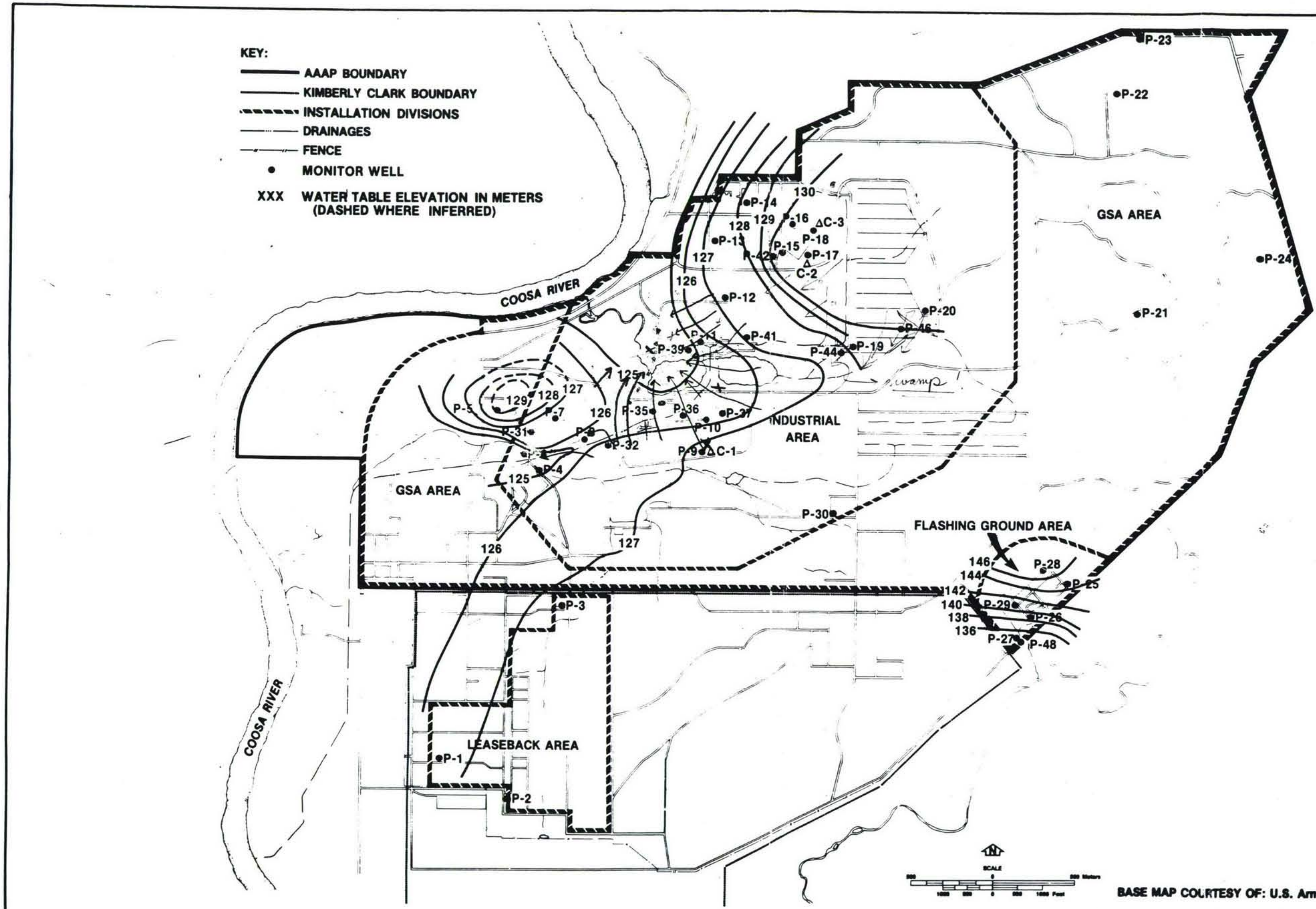

P-7 not measured
P-6 ?
P-8 not measured

WELL NUMBER	WATER ELEVATION
P-1	126.43
P-2	128.22
P-3	127.46
P-4	124.97
P-5	129.66
P-6	
P-10	125.67
P-11	125.65
P-12	120.85
P-13	127.21
P-14	128.80
P-15	131.17
P-16	130.10
P-17	130.54
P-18	130.91
P-19	129.7
P-20	128.2
P-21	138.73
P-22	143.4
P-23	138.30
P-24	143.44
P-25	144.75
P-26	128.91
P-27	134.81
P-28	147.44
P-29	140.94
P-30	
P-31	126.55
P-32	126.22
P-35	125.36
P-36	125.84
P-37	
P-39	124.21
P-41	127.08
P-42	130.32
P-44	127.3
P-46	130.0

Figure 4.1-3
WATER-TABLE CONTOUR MAP -- FEBRUARY 11, 1981
SOURCE: ESE, 1981.

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a groundwater mound which drains to both the river and the ditch develops in this area. The July 8, 1980 water-table map, however, indicates that the water level of both Wells P-5 and P-7 was slightly below that of Wells P-6 and P-8. This water-level difference suggests the possibility of occasional groundwater movement north from the Red-Water Storage Basin toward the Coosa River and supports the conclusion in the previous report (ESE, 1981) that the contamination found in Well P-6 in February 1980 has migrated from contaminated sediments in the Red-Water Ditch. Analysis of samples taken from Well P-6 on Feburary 25, 1981, did not show any quantifiable contaminants. On that date, the groundwater gradient was toward the Red-Water Ditch.

4.1.2 CONTAMINATION MIGRATION POTENTIAL

The migration rate of contaminants in soil is directly related to the movement (both horizontal and vertical) of ground water. The factors involved in determining this movement are the hydraulic conductivity and porosity of the soils and the water-table slope.

Horizontal Migration

To estimate the horizontal migration potential in the water-table aquifer, the hydraulic gradients were measured from the water-table maps. The horizontal permeability was measured by slug testing seven monitor wells. Porosity was estimated from published data (Walton, 1970).

The potential rate of horizontal pollutant movement can be estimated by using the following equation derived from Darcy's Law:

$$\overline{v} = \frac{k}{n} I$$

where: $\overline{v}$ = Average linear velocity (cm/sec),
k = Hydraulic conductivity (cm/sec),
n = Porosity, and
I = Hydraulic gradient.

The average horizontal conductivity was calculated to be 4.6×10^{-5} cm/sec. This value appears to characterize the Explosives Manufacturing Areas and the Flashing Ground. In all cases, the porosity was assumed to be 0.5.

The Flashing Ground has the steepest gradient (0.0275) measured during this study. Applying this gradient to the above equation, a horizontal rate of movement of 7.9 meters per year may be expected. Calculations of this type assume that the soil is saturated at all times and that the gradient does not change. Since the drainage feature along the southwestern end of the Flashing Ground is often dry, as were three of the wells in February 1980, the two assumed conditions will result in a conservative estimate of migration rate; thus, the rate of movement is probably considerably less than the estimated 7.9 meters per year.

The high-explosives manufacturing area in the central part of AAAP has a much lower hydraulic gradient (near 0.010). This value was calculated by drawing several flow lines across the water-table contours and averaging the slopes. Using this value gives a potential horizontal rate of movement of 2.9 meters per year. Again, this value assumes a continuous supply of water available to flow with no seasonal change in gradient and, therefore, is a conservative estimate.

Vertical Migration

The potential for vertical groundwater movement depends on the same variables (head, gradient, and hydraulic conductivity) described in the previous sections. The measurements used to determine these variables were taken from Piezometer Clusters C-1 and C-3.

Water-level measurements were taken at both clusters on January 22, 23, and 27, and February 11, 1981. During this 3-week period, four rainfall events occurred, each of which affected the shallow water table. The deep piezometers continued to show a steady rise, as expected, because winter is normally a period of recharge to the lower aquifer.

For these calculations, the hydraulic gradient (I) was assumed to be the elevation difference between the water level in Piezometer Clusters C-1 and C-3 divided by the elevation difference between the center of the two piezometer screens.

A summary of the water surface elevations and vertical gradients is presented in Table 4.1-1. On every date, there is a significant head difference between the water-level elevation of the shallow and deep piezometers. For this study, the data from the middle piezometer were used as supporting data to check the linearity of the gradients. The hydraulic gradients developed between C-1A and C-1B remained fairly uniform (0.28 to 0.46) throughout the period, while gradients between C-3A and C-3B normally were 0.20 to 0.27 (except after the heavy rainfall of February 10 the value increased to 0.77, due largely to the lower permeability/denser compaction of soil at that site as indicated by the higher standard penetration blow counts). These hydraulic gradients are significant and indicate a high probability of some vertical pollutant migration.

Applying the following formula (from Darcy's Law), the quantity of water moving vertically can be calculated.

$$Q = kIA$$

where: Q = Discharge (cm^3/sec),
k = Hydraulic conductivity (cm/sec),
I = Hydraulic gradient, and
A = Area (cm^2).

Table 4.1-1. Summary of Water Surface Elevations and Vertical Gradients

Piezometer	Screen Elevation	January 22, 1981 Water Surface Elevation	January 22, 1981 Gradient	January 23, 1981 Water Surface Elevation	January 23, 1981 Gradient	January 27, 1981 Water Surface Elevation	January 27, 1981 Gradient	February 11, 1981 Water Surface Elevation	February 11, 1981 Gradient
Cluster 1			.73/6.11 =.12						
Shallow (B)	124.84	126.66		126.71		126.70		128.54	
Gradient Between B and C	6.11	.73	0.12		0.11		0.10		0.36
Middle (C)	118.73	125.93		126.02		126.10		126.36	
Gradient Between C and A			0.90		0.83		0.58		0.19
Deep (A)	114.08	121.74		122.16		123.42		125.45	
Gradient Between A and B			0.46		0.42		0.31		0.28
Cluster 2									
Shallow (B)	126.06	126.97		126.93		126.85		131.94	
Gradient Between B and C			-0.01		-0.02		-0.02		0.59
Middle (C)	123.51	127.00		126.99		126.89		130.42	
Gradient Between C and A			0.44		0.32		0.32		0.88
Deep (A)	119.17	125.09		125.19		125.50		126.62	
Gradient Between A and B			0.27		0.25		0.20		0.77

Note: All elevations are given in meters above mean sea level.

Source: ESE, 1981.

Assuming that the vertical permeability reported by Keeler (1980) is typical of this soil type (1×10^{-6} cm/sec) with hydraulic gradient of 0.37, a 1-meter-square section of soil would conduct water to the lower aquifer at a rate of 95 liters per year per square meter (equivalent to 9.5 cm rainfall per year to the limestone aquifer). This equates to an average vertical velocity of 0.23 meter per year.

4.2 GROUNDWATER QUALITY

Water quality and the contamination status of the water-table aquifer in the Industrial Area, including the Flashing Ground, are described in this section. Samples were collected on February 25, 1981, from each of the seven wells in which contamination had been observed during the Phase I survey (ESE, 1981) and from the 11 additional wells constructed during Phase II. An additional sample was collected from Well P-23 to serve as a background control since this well did not contain detectable contamination during the Phase I survey. Samples were collected as described in Section 2.2 and couriered to the ESE laboratory for chemical analysis. Specific conductance and pH were measured on site, prior to filtration. Samples were chilled and protected from light at all times to minimize changes in their constituents. All 19 samples were analyzed for the following nitroaromatic compounds: nitrobenzene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 1,3-dinitrobenzene, 1,3,5-trinitrobenzene, 2,4,6-trinitrotoluene, and tetryl.

The most important groundwater quality results are summarized in the following paragraphs. These Phase II results are compared to the results of the Phase I survey (ESE, 1981) to describe the contamination status of the water-table aquifer underlying the explosives manufacturing areas [the Southern and Northern TNT Manufacturing Areas (Study Areas 6 and 7) and the Tetryl Manufacturing Area (Study Area 10)], the southern portion of the Acid/Organic Manufacturing Area (Study Area 8), the liquid-waste storage areas [the Red-Water Storage Basin (Study Area 5) and the Aniline Sludge Basin (Study Area 9)], the Red-Water Ditch (Study Area 21), and the Flashing Ground (Study Area 16). As

identified in the Phase I report (ESE, 1981), the soil and/or aquatic sediments of all these study areas are contaminated to some degree by nitroaromatic residues. The locations of the monitoring wells are shown in Figure 4.2-1.

The complete groundwater quality data base has been entered in the USATHAMA Chemical Data Files in the UNIVAC 1108 at Aberdeen Proving Ground, Maryland. The Phase I groundwater quality data are contained in Tier-2 file ALSBCGW81142. The Phase II data are contained in Tier-2 file ALSACGW81160.

4.2.1 SPECIFIC CONDUCTANCE AND pH

The results of the specific conductance measurements made during the Phase I survey suggested that dissolved salts had affected the characteristics of the water-table aquifer under the Industrial Area. The specific conductance of samples from wells outside this area ranged from 58 to 180 umho/cm; within the Industrial Area, the conductance ranged from 76 to 552 umho/cm. During the Phase II survey, specific conductances were lower than during Phase I. The results of the pH and specific conductance measurements are presented in Table 4.2-1. The Phase I data are included for comparison.

Except for Wells P-6 and P-26, conductivities at all of the wells sampled during both phases were observed to be a factor of 2 to 3 lower in February 1981 compared to February 1980. Wells P-6 and P-26 were lower by a factor of 4. The rainfall which occurred the month preceding sampling was above normal for both years; however, January 1981 was wetter than January 1980 (7.72 cm above normal and 5.64 cm above normal, respectively). Secondly, more than twice as much rainfall fell in the 15 days preceding the Phase II sampling. A total of 16.58 cm fell during this period, including major storm events which brought 9.14 cm of rain on February 10, 1981, and 4.72 cm on February 17, 1981. For the Phase I survey, total rainfall during the 15 days prior to sampling was only 6.68 cm. These data are from NOAA (1980, 1981) records collected at the Childersburg, Alabama Water Treatment Plant. Dilution of the

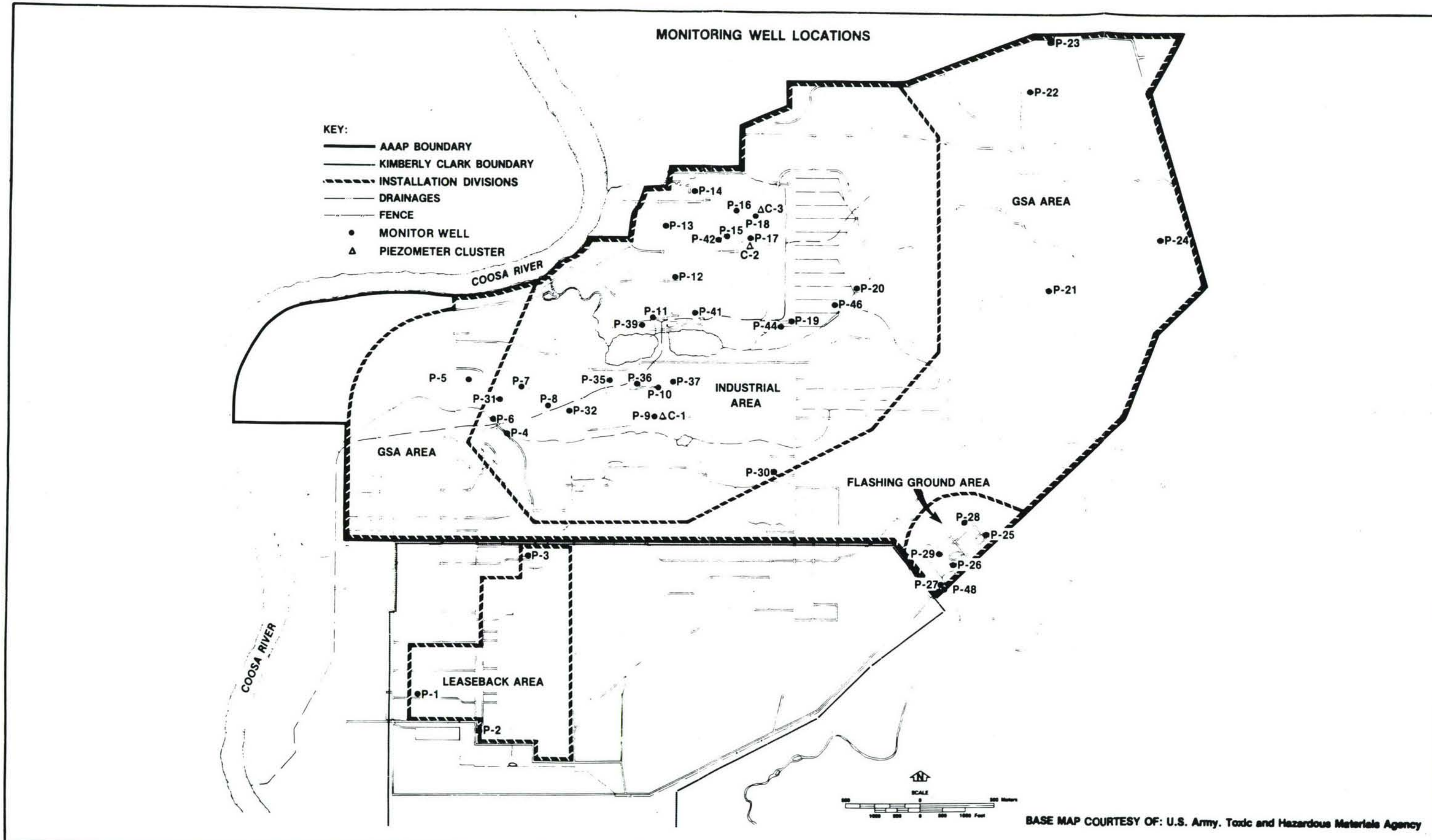

Figure 4.2-1
MONITOR WELLS AND PIEZOMETERS

SOURCE: ESE, 1981.

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Table 4.2-1. Comparison of pH and Specific Conductance in the Water-Table Aquifer--February 1980 and February 1981

	Location		February 1980†		February 1981†	
Well Number	Study Area	AAAP Area*	Specific Conductance (umho/cm)	pH Units	Specific Conductance (umho/cm)	pH Units
P-1	1	LBA	180	6.1	--	--
P-2	2	LBA	74	5.9	--	--
P-3	2	LBA	768	6.7	--	--
P-4	3	IND	33	6.1	--	--
P-5	4	IND	282	6.3	--	--
P-6	5,21**	IND	150	6.4	35	6.1
P-7	5	IND	76	6.0	--	--
P-8	5,21**	IND	384	6.7	--	--
P-9	6	IND	492	8.2	--	--
P-10	6	IND	354	5.4	122	6.2
P-11	7	IND	382	6.8	190	6.5
P-12	7	IND	232	6.2	--	--
P-13	8	IND	552	6.5	--	--
P-14	8	IND	186	6.2	--	--
P-15	8,9**	IND	122	6.0	76	6.2
P-16	8,9**	IND	40	5.8	--	--
P-17	8,9**	IND	389	6.3	--	--
P-18	8,9**	IND	195	6.1	--	--
P-19	10	IND	236	6.2	76	6.0
P-20	10	IND	50	5.6	19	5.7
P-31	5**	IND	--	--	87	5.9
P-32	5,6**	IND	--	--	95	5.6
P-35	6	IND	--	--	169	6.0
P-36	6	IND	--	--	43	5.0
P-37	6	IND	--	--	272	6.1
P-39	7	IND	--	--	158	5.5
P-41	7	IND	--	--	158	6.0
P-42	8,9	IND	--	--	87	5.7
P-44	10**	IND	--	--	144	3.4
P-46	10	IND	--	--	98	5.6

Table 4.2-1. Comparison of pH and Specific Conductance in the Water-Table Aquifer--February 1980 and February 1981 (Continued, Page 2 of 2)

Well Number	Location		February 1980†		February 1981†	
	Study Area	AAAP Area*	Specific Conductance (umho/cm)	pH Units	Specific Conductance (umho/cm)	pH Units
P-21	11	GSA	77	6.0	--	--
P-22	12	GSA	120	6.2	--	--
P-23	13	GSA	93	6.0	33	6.0
P-25	16	IND	58	5.9	--	--
P-26	16	IND	133	6.0	30	5.5
P-48	16**	IND	--	--	104	6.3

* AAAP Area: GSA = General Services Administration Area
LBA = Leaseback Area
IND = Industrial Area (Explosives Manufacturing, Flashing Ground, Manhattan Project Area, Sanitary Landfill)

† Sampled February 6, 1980, and February 25, 1981.

**Well is not located within study area.

Source: ESE, 1980 and 1981.

water-table aquifer immediately prior to the Phase II sampling probably accounts for the lower specific conductances observed. The monitor wells are constructed with a filter pack surrounding the well screen, extending from near the average water-table elevation to the bottom of the well. During bailing and sampling activities, this filter pack acts as a vertical conduit to conduct the lower-conductance shallow ground water downward to the well screen to mix with water entering from other parts of the aquifer. The resulting sample is a vertical composite from all levels of the aquifer including water from above the contaminated zone. In spite of the overall lower conductivities observed, the ground water sampled in the central part of the Industrial Area was higher in conductivity than the ground water at the edge of the Industrial Area. High conductivity also was related to detection of nitroaromatic residues. This pattern is similar to that observed during Phase I sampling.

With the exception of Well P-44, the pH values observed during Phase II were similar to those observed during Phase I. A pH value of 3.4 was observed during Phase II at Well P-44. This value is lower than any other observed in the environmental survey, including 1980 and 1981 values for Wells P-19 and P-20 and 1981 values for Well P-46 located nearby. Well P-44 had the highest observed conductivity of these wells during the Phase II sampling, however. The source of acidity at this well location cannot be confirmed or identified by other data.

4.2.2 NITROAROMATIC RESIDUES

Table 4.2-2 presents the results of analysis of the trinitrotoluene-related nitroaromatic compounds and tetryl in the 18 wells sampled during Phase II. Phase I data for Wells P-6, P-10, P-11, P-15, P-19, P-20, and P-26 are included for comparison. The Phase II results confirmed the presence of nitroaromatic residues in the ground water underlying the Northern and Southern TNT Manufacturing Areas. Comparison of the 1980 and 1981 results from Wells P-10 and P-11 suggests that the dilution effect described in the preceding paragraphs

Table 4.2-2. Comparison of the Concentration of Nitroaromatic Residues in the Water-Table Aquifer—February 1980 and February 1981

Well Number	Concentration (ug/1) 2,4,6-Trinitrotoluene 1980	2,4,6-Trinitrotoluene 1981	2,4-Dinitrotoluene 1980	2,4-Dinitrotoluene 1981	2,6-Dinitrotoluene 1980	2,6-Dinitrotoluene 1981	Nitrobenzene 1980	Nitrobenzene 1981	1,3-Dinitrobenzene 1980	1,3-Dinitrobenzene 1981	1,3,5-Trinitrobenzene 1980	1,3,5-Trinitrobenzene 1981	Tetryl 1980	Tetryl 1981
P-6	0.41	<1.4	1.0	<3.0†	1.3	<3.8	<5.8	<17	<1.8	<4.8	<5.3	<9.7	<3.2	<23.9
P-31		<1.4		<3.0†	~~<1.3~~	<3.8†		<17		<4.8†		<9.7		<23.9
P-32		<1.4†		<3.0		<3.8		<17		<4.8		<9.7		<23.9
P-10	10,270	4,540	4,340	1,620	860	504	36.1	<170	466	<48.2	4,380	2,010	<3.2	<23.9
P-35		47.6		<3.0		<3.8†		<17		<4.8		<9.7		<23.9
P-36		<1.4		<3.0		<3.8		<17		<4.8		<9.7		<23.9
P-37		1,070		312		606		<170		<48		<9.7		<23.9
P-11	74.4	49.0	21.0	13.7	38.7	<38.0	<5.8	<17	<1.8†	<4.8	<5.3	<9.7	<3.2	<23.9
P-39		50.2		<3.0		7.2		<17		<4.8		<9.7		<23.9
P-41		38.6		<3.0		<3.8		<17		<4.8		<9.7		<23.9
P-15	<0.41	<1.4	2.1	<3.0†	<1.3	<3.8†	<5.8	<17	<1.8	<4.8	<5.3	<9.7	<3.2	<23.9
P-42		<1.4		<3.0		<3.8		<17		<4.8		<9.7		<23.9
P-19	<0.41	<1.4	<1.2	<3.0	<1.3	<3.8	<5.8	<17	<1.8	<4.8	<5.3	<9.7		<23.9
P-20	<0.41	<1.4	<1.2	<3.0	<1.3	<3.8	<5.8	<17	<1.8	<4.8	<5.3	<9.7	8.1	<23.9
P-44		<1.4†		<3.0†		<3.8†		<17		<4.8		<9.7†		38.4
P-46		<1.4†		<3.0		<3.8		<17		<4.8		<9.7		<23.9
P-26	<0.41	<1.4	3.6	<3.0†	<1.3	<3.8†	<5.8	<17	<1.8	<4.8	<5.3	<9.7	<3.2	<23.9
P-48		<1.4†		<3.0		<3.8†		<17		<4.8		<9.7		<23.9

* Sampled February 6, 1980, and February 25, 1981.
† Trace amounts observed below the quantitative detection limit.

Source: ESE, 1980 and 1981.

also lowered the concentrations of nitroaromatic residues in the ground water sampled in 1981 (Phase II).

The quantifiable detection limits attained during the 1981 survey were slightly higher than for the 1980 results. Detection limits for each set of analyses were determined in accordance with the Quality Control Plan. These limits are determined statistically from regression analysis of uncontaminated water from the AAAP site which was spiked with known concentrations of each analyte. Because of this procedure analytical detection limits vary slightly among analytical sets. The detection limits for the dinitrotoluene isomers and the nitrobenzene compounds were high on several samples which contained high levels of 2,4,6-trinitrotoluene (TNT). In Well P-10, sampled during 1981, the high level of TNT made it impossible to analyze the sample without making a ten-fold dilution of the extract. The chromatographic column would have been destroyed at a higher concentration level. The detection limit for nitrobenzene and 1,3-dinitrobenzene was therefore 10 times higher than for samples in which the extract could be analyzed without dilution. A similar situation raised the dilution limit for 2,6-dinitrotoluene in the 1981 sample from Well P-11, although other nitroaromatic residues could be quantitated without dilution. In this sample, the TNT peak interfered only with the 2,6-dinitrotoluene.

As shown in Table 4.2-2, chromatographic peaks suggestive of the presence of traces of the analytes, but below quantitative detection levels, were frequently observed. Considering the differences in detection limits and dilution, the 1980 and 1981 data on the Phase I wells are comparable. Considered together, the 1980 and 1981 data on the Phase I and Phase II wells suggest the following pattern of contamination in the water-table aquifer at AAAP.

Overall, the major sources of groundwater contamination appear to be located around the former Washer-Flaker House areas in both the Southern and Northern TNT Manufacturing Areas. The Southern TNT Manufacturing

Area (Study Area 6) has the highest level of contamination (Wells P-10 and P-37). Ground water from Well P-36, located adjacent to TNT Line G, contained no detectable nitroaromatic residues, and water at Well P-35 contained significantly lower concentrations than the samples from Wells P-10 and P-37. These results suggest that the pattern of contaminated ground water in the TNT Manufacturing Areas consists of pockets of heavily contaminated water migrating from discrete sources rather than including large areas. In the Northern TNT Manufacturing Area (Study Area 7), the level of contamination was lower (see Wells P-11, P-39, and P-41).

Small amounts of nitroaromatic residues appear to be contaminating the ground water near the Red-Water Storage Basin and lower Red-Water Ditch, as shown in Table 4.2-2. Trinitrotoluene and 2,4- and 2,6-dinitrotoluene were observed at concentrations near the detection limit during the Phase I sampling program. No quantifiable levels were found during the 1981 sampling program. During drilling of Well P-31, a strong nitroaromatic odor was observed. No detectable nitroaromatic compounds were observed in sampling of this well; however, chromatographic peaks were observed at levels far below detection limits in water. Certain of the nitroaromatics such as nitrobenzene and the dinitrotoluenes are volatile, have a particularly strong odor, and can be detected by the sense of smell at extremely low concentrations in air. In augering the hole, the soil was likely heated and sufficient material volatilized to detect by olfaction, yet the concentration in the ground water was below chemical detection limits. Both 2,4- and 2,6-dinitrotoluene, as well as 1,3-dinitrobenzene, chromatographic peaks were observed in the sample from Well P-31; however, the concentrations were below the quantifiable limit. A non-quantifiable peak suggesting 2,4-dinitrotoluene was observed in a sample taken from Well P-6 during the 1981 sampling. No detectable nitroaromatic residues were observed in 1980 samples from Wells P-7 and P-8. The sample from Well P-32 contained less than quantifiable amounts of trinitrotoluene.

During Phase I, low concentrations of nitroaromatic residues were found in the ground water from Well P-15, downgradient from the Aniline Sludge Basin (Study Area 9). During Phase II, 2,4- and 2,6-dinitrotoluene were found in a sample of this ground water; however, concentrations were below the quantifiable limit. No contamination was observed in the aquifer at Well P-42, located just downgradient from Well P-15.

Tetryl, observed in the ground water at Well P-20 during Phase I, was not confirmed during the 1981 survey. Chromatographic peaks identifiable as trinitrotoluene, both dinitrotoluene isomers, and trinitrobenzene were observed in samples from Well P-44; however, these were below the quantitative detection limit.

During the Phase I survey, 3.6 ug/l of 2,4-dinitrotoluene was observed in the ground water at the southern end of the Flashing Ground (Study Area 16). This contamination was not present during the 1981 survey. No quantifiable concentrations of nitroaromatic residues were found in samples from Well P-26 or Well P-48 located downgradient from the Flashing Ground. Trace quantities of materials identifiable as trinitrotoluene and dinitrotoluenes were observed in these wells; however, the concentrations were below the quantifiable detection limit.

4.2.3 GROUNDWATER CONTAMINATION STATUS

The groundwater quality data from the Phase I and Phase II surveys indicate that the water-table aquifer underlying the Industrial Area at AAAP contains pockets of nitroaromatic contamination which appear to be localized near discrete sources of contamination related to the sites of previous industrial activity.

Concentrations of nitroaromatic residues just above the detection limit were observed at one well adjacent to the Red-Water Storage Basin and lower Red-Water Ditch. During Phase II, concentrations were below the detection limit at this well and at two other wells (Well P-31 located

adjacent to the Red-Water Storage Basin and Well P-32 located along the Red-Water Ditch). Apparently only small amounts of nitroaromatic residues are migrating from the contaminated sediments of these two water bodies. The presence of tetryl in Well P-20 was not confirmed during the Phase II survey; however, tetryl was observed in the sample from Well P-44.

The horizontal migration of contamination from the two TNT manufacturing areas has apparently been largely confined within the Industrial Area (Figure 4.2-2). This conclusion is based on the following evidence:

1. The absence of detectable concentrations of nitroaromatic residues in samples from Wells P-4, P-5, P-7, P-8, P-9, P-12, P-13, P-16, and P-17 during the Phase I survey and in samples from Wells P-19, P-20, and P-42 during the Phase II survey.
2. The presence of only non-quantifiable traces of nitroaromatic residues during the Phase II survey at Wells P-6, P-15, P-31, P-32, P-44, and P-46.

At the Flashing Ground, nitroaromatic contamination was below quantifiable limits during the Phase II survey. Only small amounts of contaminants (below detection limits) are moving horizontally down-gradient at this location as leachate from the contaminated soil. There was sufficient rainfall immediately preceding the Phase II sampling to reduce contaminant levels below detection limits.

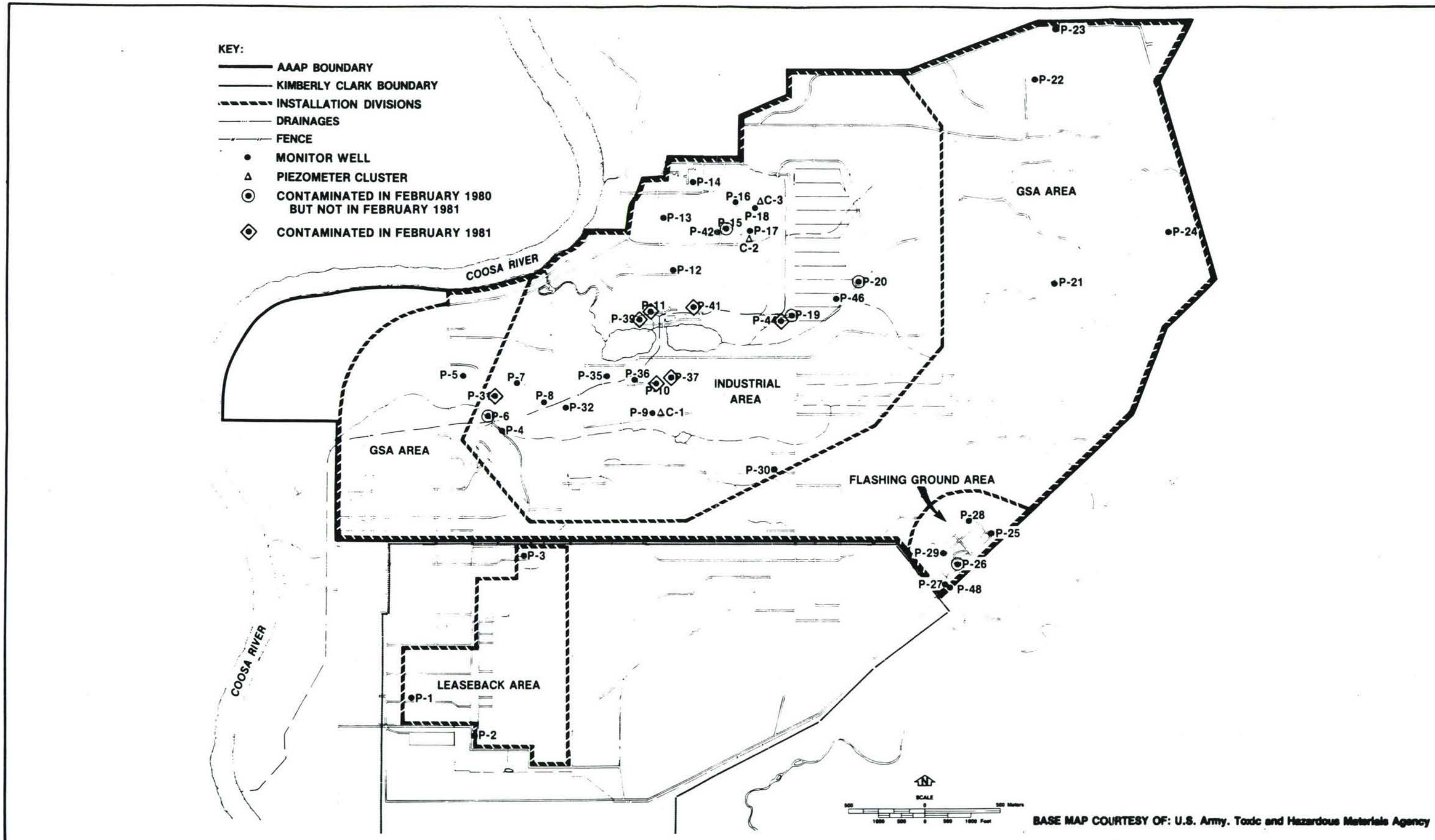

Figure 4.2-2
GROUNDWATER CONTAMINATION STATUS
SOURCE: ESE, 1981.

Groundwater Report Alabama Army Ammunition Plant Childersburg, Alabama	U.S. Army Toxic and Hazardous Materials Agency Aberdeen Proving Ground, Maryland

5.0 CONCLUSIONS

The results of geohydrological and water quality studies of the water-table aquifer underlying the Industrial Area and the Flashing Ground at AAAP are presented in the preceding sections of this report. These data were gathered during Phase I, the Environmental Survey (ESE 1981), and Phase II, the groundwater contamination study. This section summarizes the important conclusions regarding the contamination status and contaminant migration potential in the water-table aquifer at AAAP.

The following conclusions can be made regarding the geohydrological characteristics of the water-table aquifer:

1. Water-level measurements taken in monitor wells for both Phase I and Phase II indicate a strong similarity. The general flow direction in the Industrial Area is toward the Coosa River and the Red-Water Ditch, with a horizontal gradient of near 0.01 meter per meter.

   At the Flashing Ground (Study Area 16), the water table slopes steeply to the southeast toward Talladega Creek at a gradient of 0.0275 meter per meter.

2. Horizontal migration rates were calculated using data collected from 13 slug tests conducted in monitor wells. These tests indicate that the ground water is moving downgradient at a rate of approximately 2.9 meters per year in the Industrial Area and 7.9 meters per year at the Flashing Ground (Study Area 16).

3. Estimates of vertical leakance of water to the lower aquifer, based on hydraulic heads measured in two piezometer clusters, show that recharge occurs at a rate of approximately 95 liters

per year per square meter. This is equivalent to vertical rate of water movement in the Industrial Area of 0.23 meter per year.

The following conclusions can be made regarding the contamination status of the water-table aquifer:

1. The Phase I survey (ESE, 1981) indicated that groundwater contamination was confined to the Industrial Area and the Flashing Ground (Study Area 16). The water-table aquifer underlying the Leaseback Area and the GSA Area is free from contamination.

2. The groundwater quality data from the Phase I and Phase II surveys indicate that the water-table aquifer underlying the Industrial Area at AAAP contains pockets of nitroaromatic contamination which appear to be localized near discrete sources of soil contamination primarily related to sites of previous industrial activity (Washer-Flaker Houses) within the Southern and Northern TNT Manufacturing Areas (Study Areas 6 and 7), and to spoil banks of contaminated Red-Water Ditch sediments within Study Area 6.

3. Based on the results of the Phase I and Phase II surveys, only small quantities of nitroaromatic residues appear to be migrating from contaminated sediments of the Red-Water Storage Basin, Red-Water Ditch, and Aniline Sludge Basin. This conclusion is based on observation of contaminant concentrations near the detection limit or below the quantifiable detection limit in wells located downgradient from these sources.

4. Increased specific conductance above the values observed in other areas at AAAP was observed in the wells within the Industrial Area. This observation was related to detection of nitroaromatic residues. A dilution effect was observed during the Phase II survey and was a result of antecedent rainfall conditions.

5. Nitroaromatic concentrations were diluted during Phase II as a result of antecedent rainfall conditions as indicated by the comparative Phase I and Phase II data. The major contaminants found during both surveys were 2,4,6-trinitrotoluene; 2,4- and 2,6-dinitrotoluene; 1,3-dinitrobenzene; and 1,3,5-trinitrobenzene.

   During Phase I (ESE, 1981), several other nitroaromatic compounds, transformation products of TNT, were identified in the sample from the most heavily contaminated well. These were 4-amino-2,6-dinitrotoluene; 3,5-dinitroaniline; 2-amino-4,6-dinitrotoluene; 2,4-dinitrophenol; and 2-methyl-4,6-dinitrophenol.

The horizontal migration of contamination from the two TNT manufacturing areas has apparently been largely confined within the Industrial Area. This conclusion is based on the following evidence:

1. The absence of detectable concentrations of nitroaromatic residues in Wells P-4, P-5, P-7, P-8, P-9, P-12, P-13, P-16, and P-17 during the Phase I survey and in Wells P-19, P-20, and P-42 during the Phase II survey.

2. The presence of only non-quantifiable traces of nitroaromatic residues during the Phase II survey at Wells P-6, P-15, P-31, P-32, P-44, and P-46.

In the Industrial Area, the closest horizontal downgradient distance from a contaminated well (P-11) to the AAAP boundary is approximately 670 meters. Using the calculated horizontal flow rate of 2.9 meters per year, the time required for contaminated ground water to move off site in the northwest direction is approximately 230 years.

The Flashing Ground is much closer to the boundary. Because of this proximity and the steeper groundwater gradient, the time required for

ground water to migrate the 25-meter distance to the boundary is approximately 3 years.

Based on the observations and measurements made in the two piezometer clusters, a calculation of time required for ground water to move vertically from the water-table aquifer to the lower limestone aquifer at Wells P-11 and P-10 shows time rates of 10 years and 33 years, respectively.

6.0 REFERENCES

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APPENDIX A

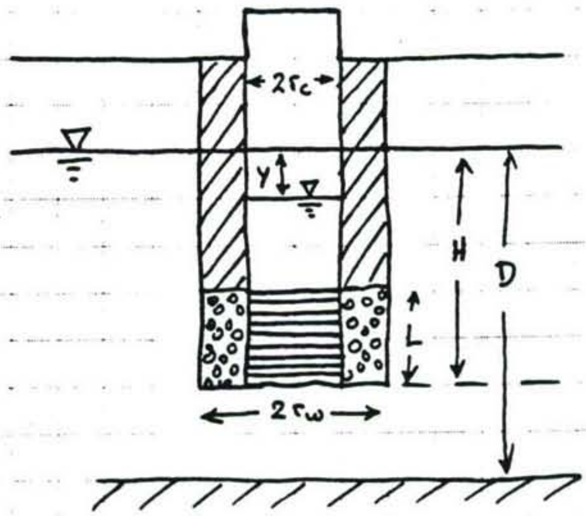
SLUG TEST CALCULATIONS

ESE
P. O. Box ESE
GAINESVILLE, FLORIDA 32602
(904) 372-3318

SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD

Well No P-6.
Date 7-15-81
D+W-mp 14.25'
Dtw-Ls ______

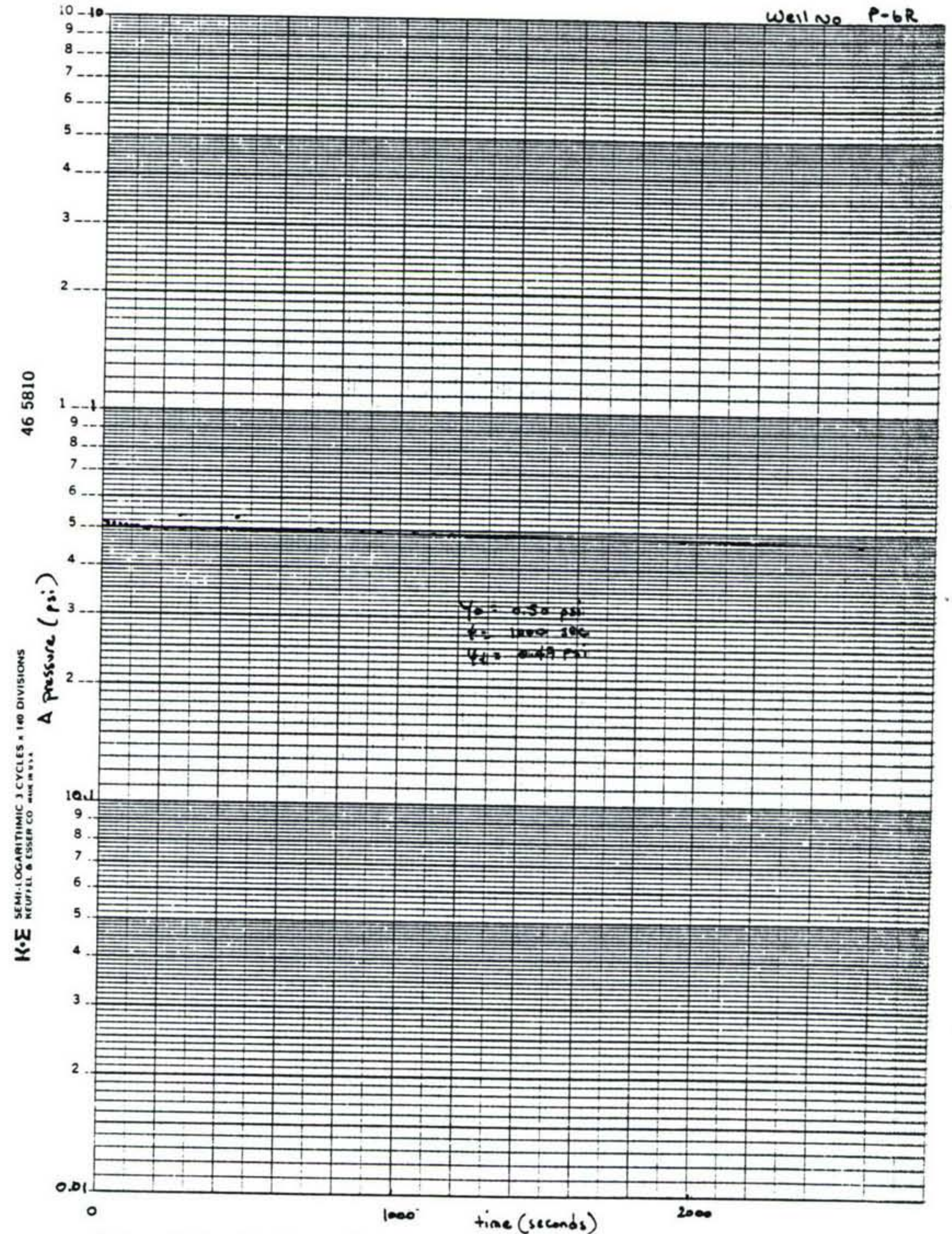


Well Radius		L	D	H	r_c	$r_c^2/2L$
casing	gravel pack					
0.1667'	0.333'	4.25	21.25	4.25	0.230'	0.00622

r_w	L/r_w	A	B	C	$Ln\ Re/r_w$
0.333'	12.76	1.9	0.5	1.2	0.735

Y_o	t	Y_t	$1/t\ Ln\ Y_o/Y_t$	$K = \frac{r_c^2}{2L} \times Ln\frac{R_e}{r_w} \times \frac{1}{t} Ln\frac{Y_o}{Y_t}$
1.15	1000	1.13	0.0000175	2.4×10^{-6} cm/sec

COMMENTS



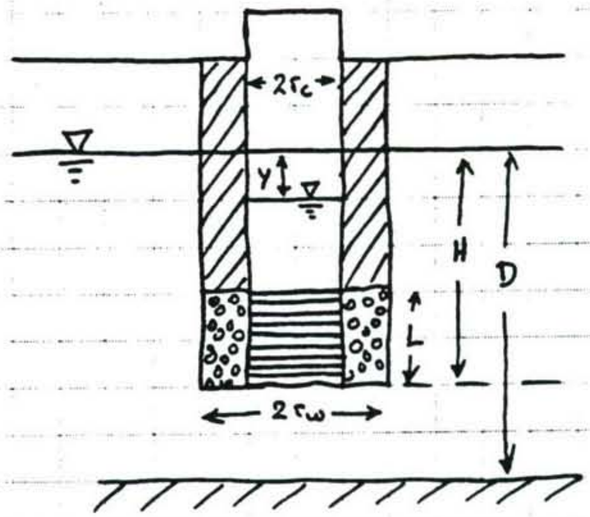
Data plot of elapsed time against change in pressure for Well P-6 (SI phase)

ESE
P. O. Box ESE
GAINESVILLE, FLORIDA 32602
(904) 372-3318

SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD

Well No P-10
Date 7-14-81
D+W-mp 17'
Dtw-Ls

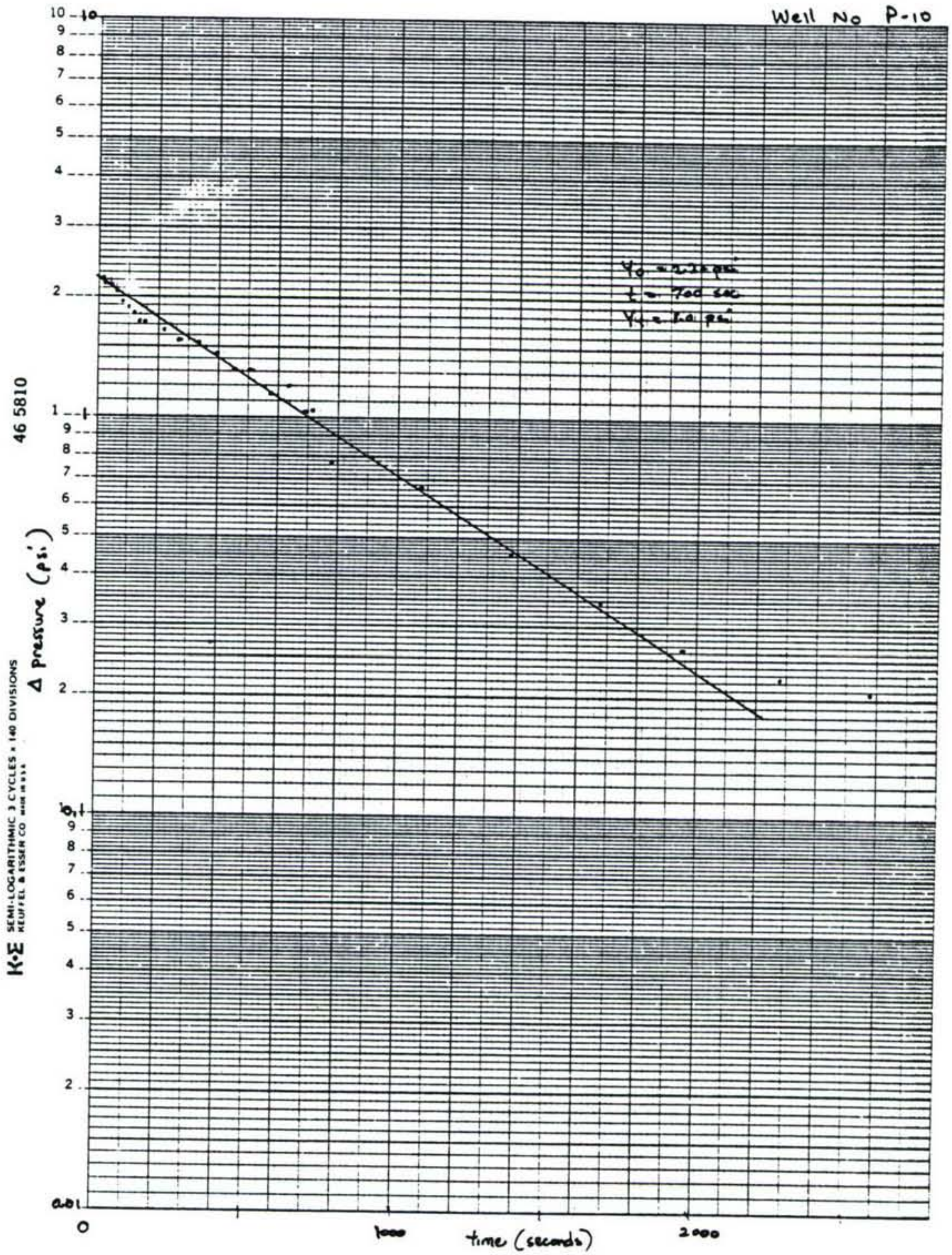


Well Radius		L	D	H	r_c	$r_c^2/2L$
casing	gravel pack					
2" 0.1667'	4" 0.333'	10	15.5	15.5	0.1667'	0.00834

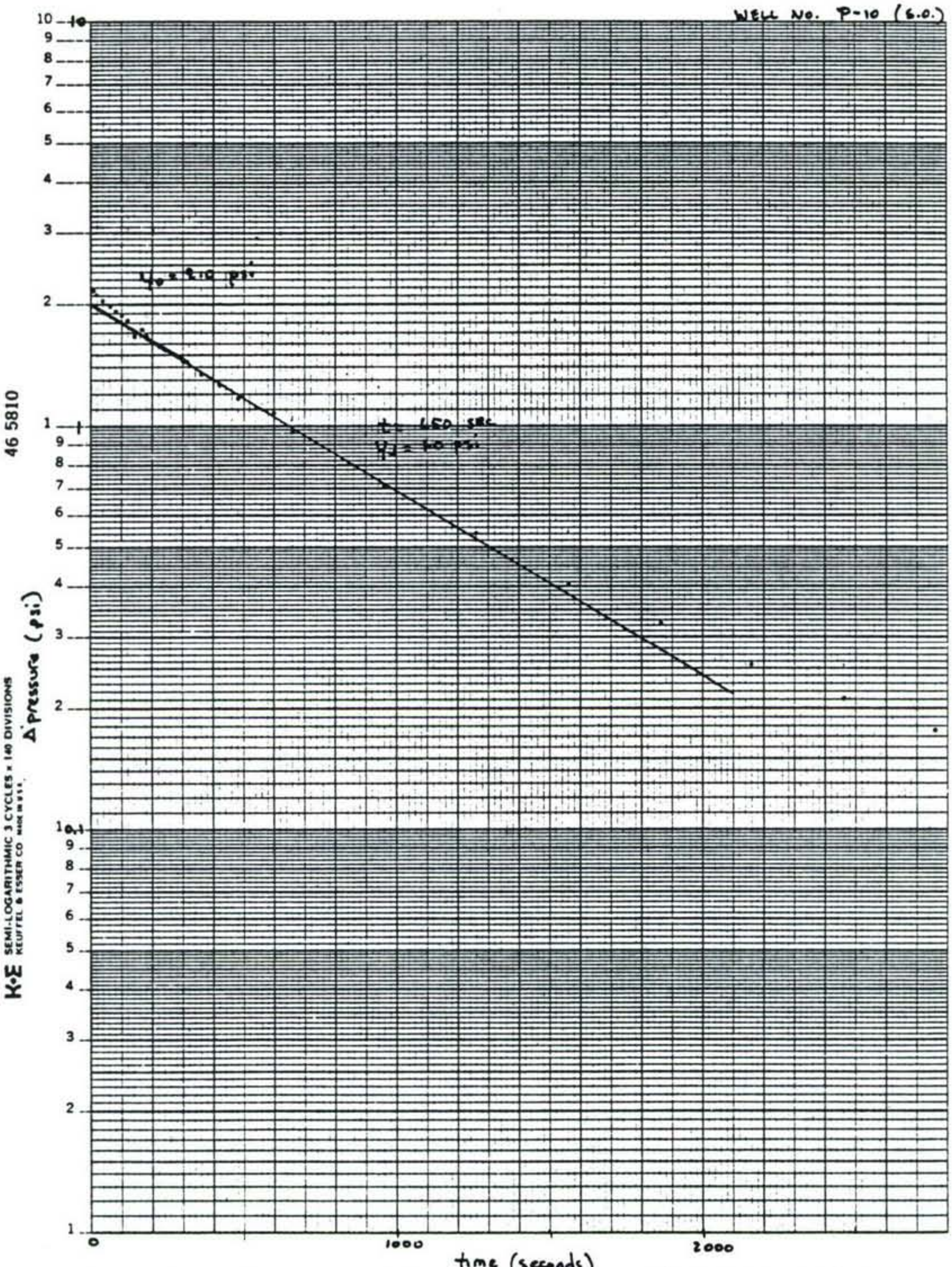
r_w	L/r_w	A	B	C	$Ln\, R_e/r_w$
0.333'	30.03	—	—	2.0	2.832

	y_o	t	y_t	$\frac{1}{t} \ln y_o/y_t$	$K = \frac{r_c^2}{2L} \times \ln \frac{R_e}{r_w} \times \frac{1}{t} \ln y_o/y_t$
S1	5.08	700	2.31	0.00113	8.1×10^{-4} cm/sec
S0	4.62	650	3.31	0.000513	3.7×10^{-4} cm/sec

COMMENTS



Data plot of elapsed time against change in pressure for Well No. P-10 (SI phase)

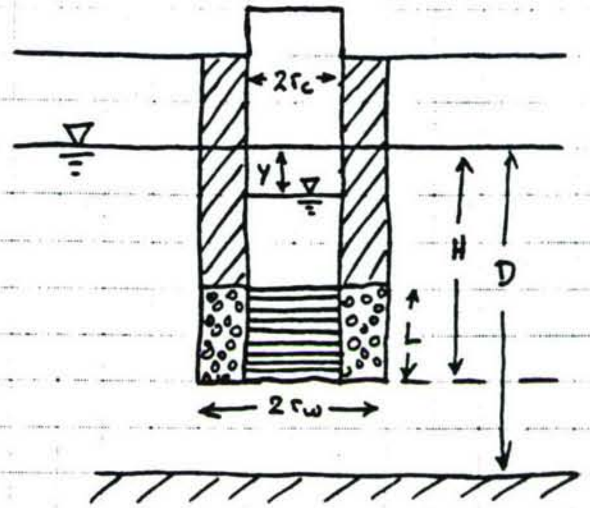


Data plot of elapsed time against change in pressure for Well No. P-10 (SO phase)

ESE
P. O. Box ESE
GAINESVILLE, FLORIDA 32602
(904) 372-3318

SHEET NO ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD



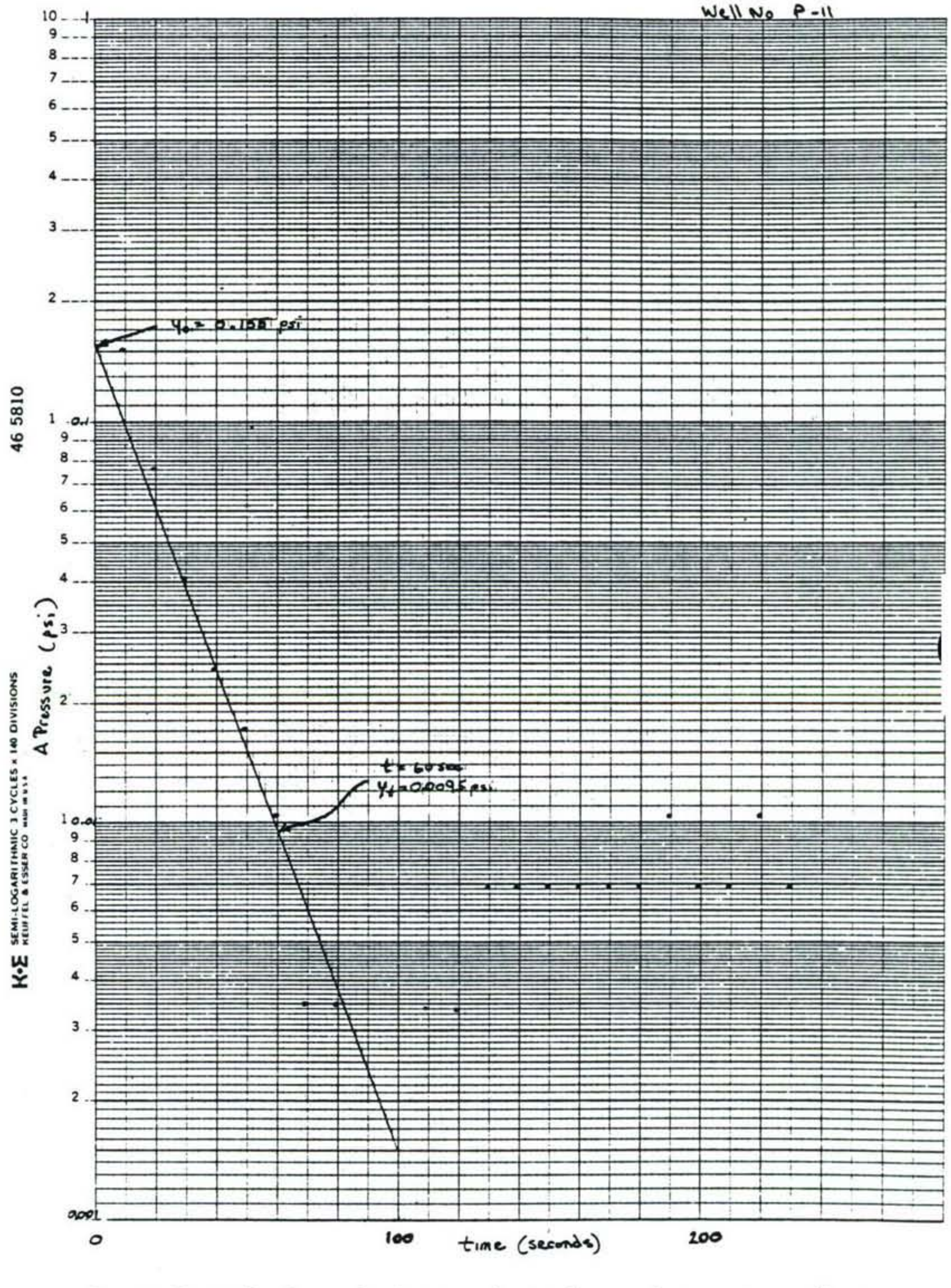
Well No P-11
Date 7-16-81
Dtw-mp 15'6"
Dtw-Ls ______

Well Radius: casing	Well Radius: gravel pack	L	D	H	r_c	$r_c^2/2L$
0.1667'	0.333'	4'	4'	4'	0.230	0.00661

r_w	L/r_w	A	B	C	$\ln R_e/r_w$
0.1667'	23.995	—	—	1.8	2.374

Y_o	t	Y_t	$\frac{1}{t}\ln Y_o/Y_t$	$K = \frac{r_c^2}{2L} \times \ln\frac{R_e}{r_w} \times \frac{1}{t}\ln\frac{Y_o}{Y_t}$
SI 0.357	60 sec	0.0219	0.0465	0.76 cm/sec SI
SO 0.111	90 sec	0.0231	0.0183	0.30 cm/sec SO

COMMENTS



Data plot of elapsed time against change in pressure for Well No. P-11 (SI phase)

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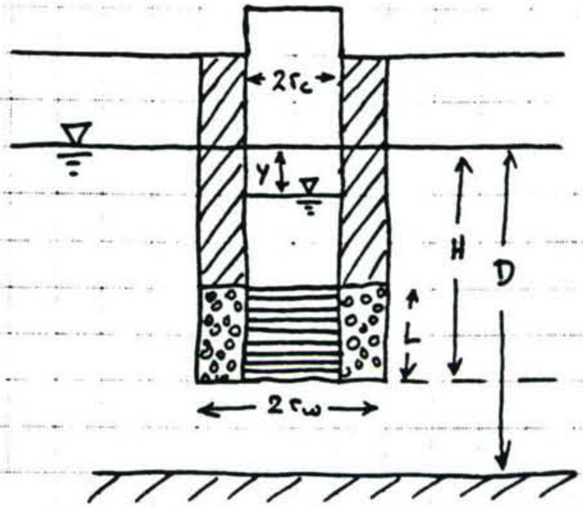
(904) 372-3318

SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD



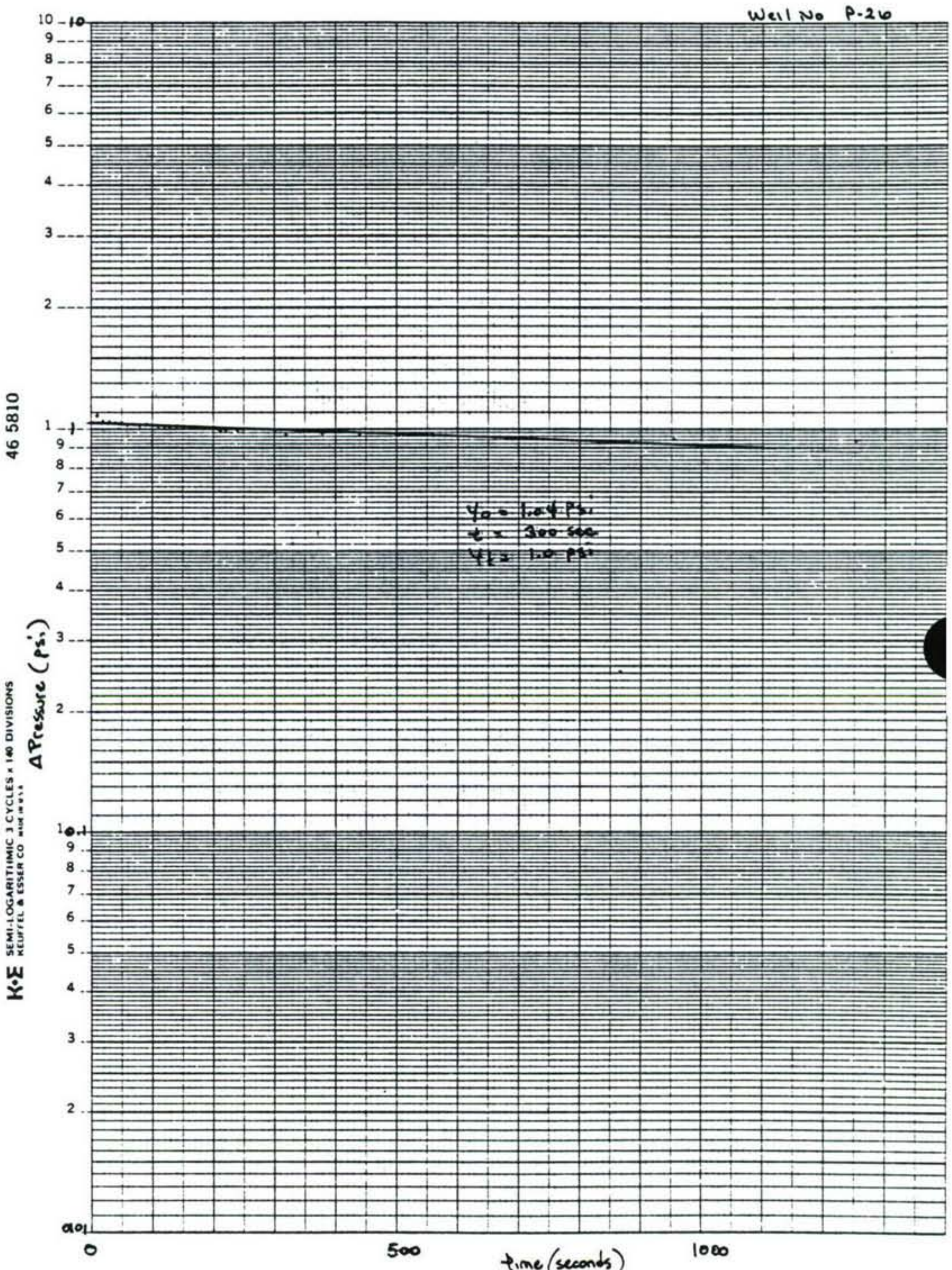
Well No P-26
Date 6-15-81
Dtw-mp 47'
Dtw-Ls ______

Well Radius casing	Well Radius gravel pack	L	D	H	r_c	$r_c^2/2L$
0.1667	0.333	5.5	5.5	5.5	0.230	0.0048

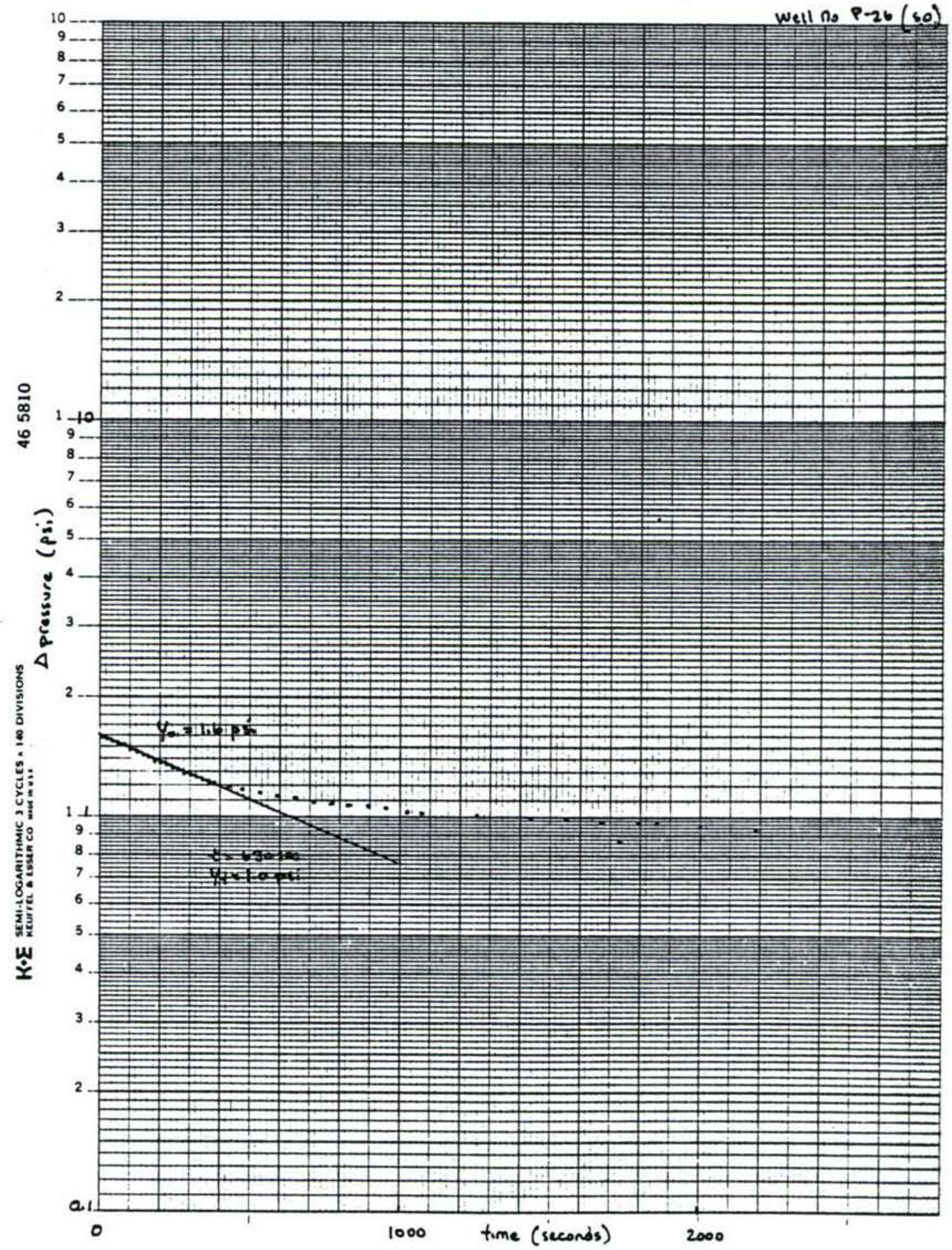
r_w	L/r_w	A	B	C	$\ln R_e/r_w$
0.333	16.52	—	—	1.6	0.699

Y_o	t	Y_t	$\frac{1}{t} \ln Y_o/Y_t$	$K = \frac{r_c^2}{2L} \times \ln \frac{R_e}{r_w} \times \frac{1}{t} \ln \frac{Y_o}{Y_t}$
S1 2.402'	300	2.309	0.000132	6.4×10^{-4} cm/sec S1

COMMENTS



Data plot of elapsed time against change in pressure for Well No. P-26 (SI phase)

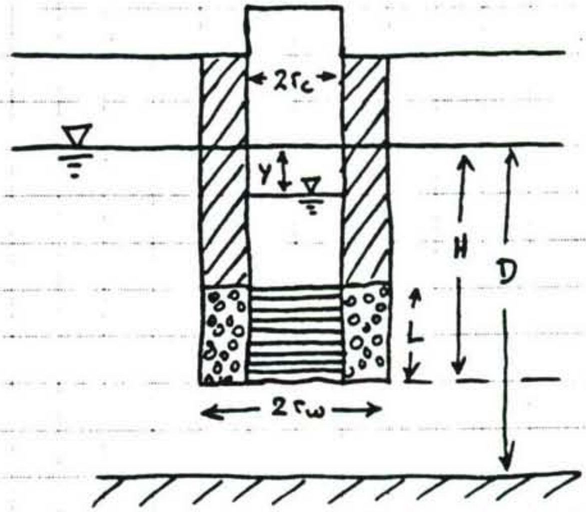


Data plot of elapsed time against change in pressure for Well No. P-26 (SO phase)

ESE
P. O. Box ESE
GAINESVILLE, FLORIDA 32602
(904) 372-3318

SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD



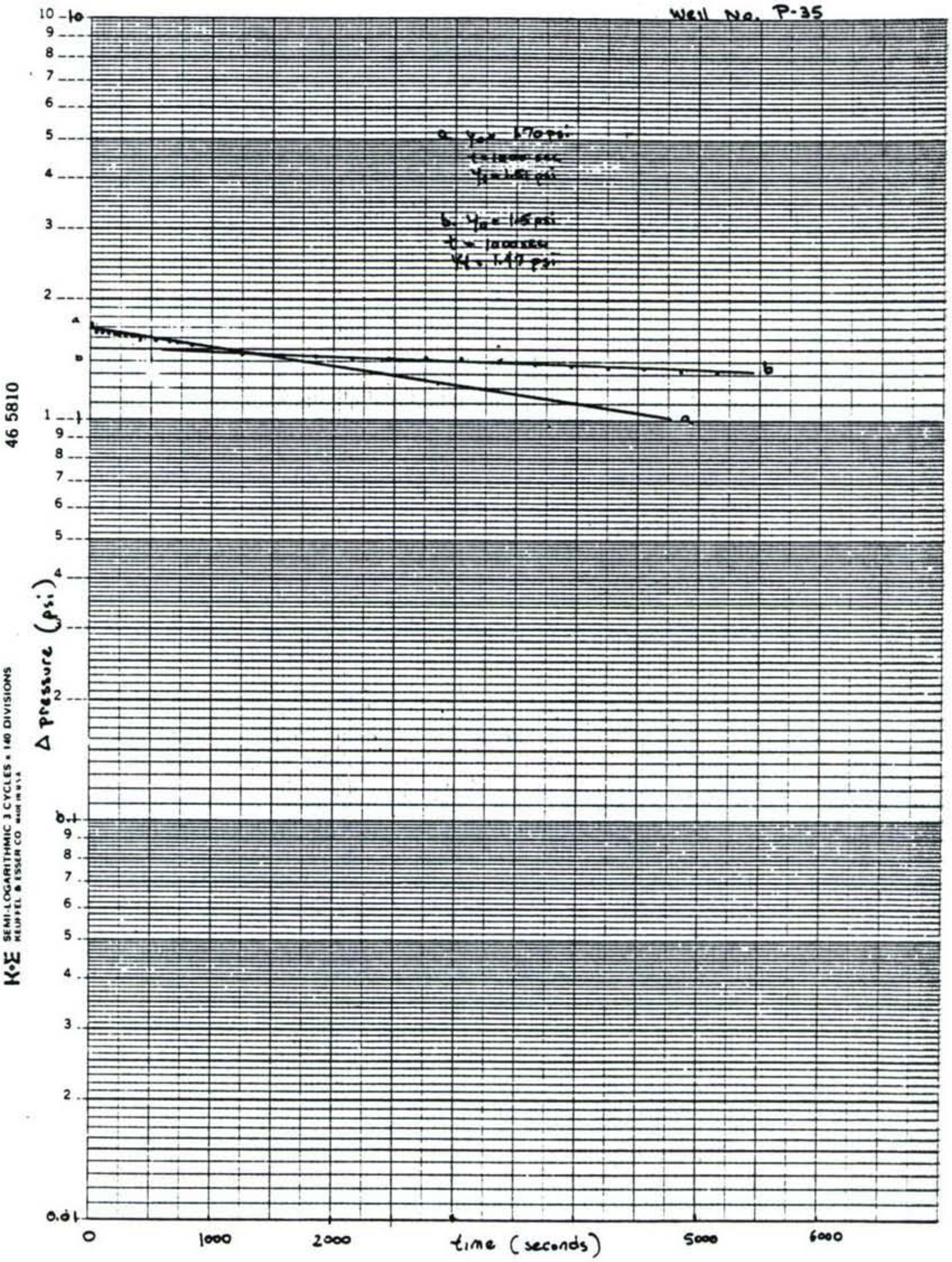
Well No P-35
Date 7-16-81
Dtw-mp 16'
Dtw-Ls ______

Well Radius		L	D	H	r_c	$r_c^2/2L$
casing	gravel pack					
4"	8"	20'	29'	29'	0.1667'	0.00069'

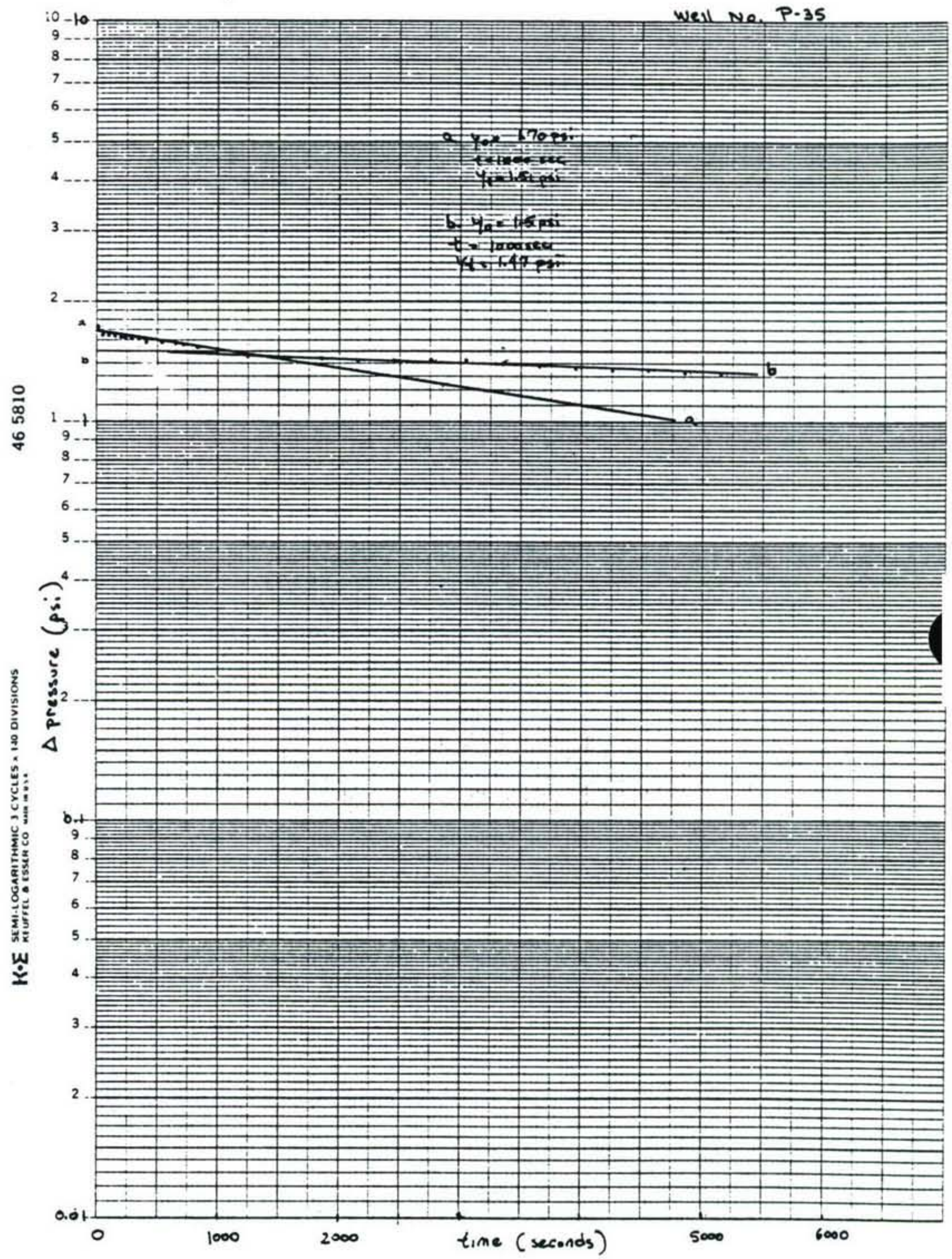
r_w	L/r_w	A	B	C	$\ln R_e/r_w$
0.333	60			3.0	3.375

Y_o	t	Y_t	$\frac{1}{t}\ln Y_o/Y_t$	$K = \frac{r_c^2}{2L} \times \ln\frac{R_e}{r_w} \times \frac{1}{t}\ln\frac{Y_o}{Y_t}$
a. 3.926	1000 sec	3.487	0.000119	2×10^{-3} cm/sec
b. 3.464	1000 sec	3.395	0.0000201	3.4×10^{-4} cm/sec

COMMENTS: Plot of time vs ΔP shows two slopes. Early time data, up to 1000 sec, is calculated as a (above). Late time data, greater than 1000 sec, is calculated as b.



Data plot of elapsed time against change in pressure for Well No. P-35 (SI phase)



Data plot of elapsed time against change in pressure for Well P-35 (SO phase)

ESE
P. O. Box ESE
GAINESVILLE, FLORIDA 32602
(904) 372-3318

SHEET NO. ________ OF ________

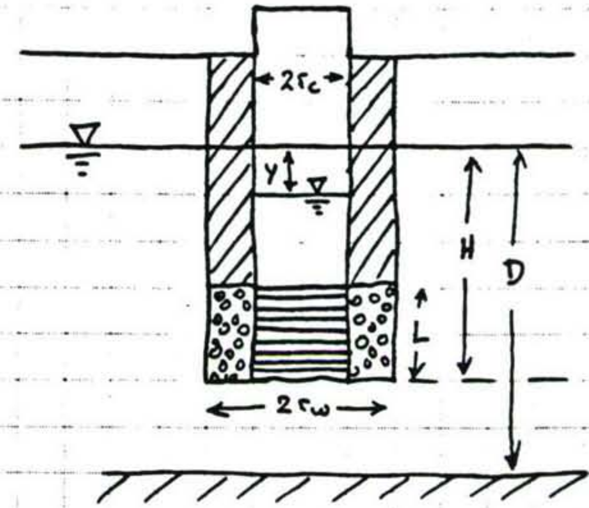
CALCULATED BY ________ DATE ________

CHECKED BY ________ DATE ________

SCALE ________

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD

Well No P-37
Date 7-14-81
Dtw-mp 15'
Dtw-Ls ________

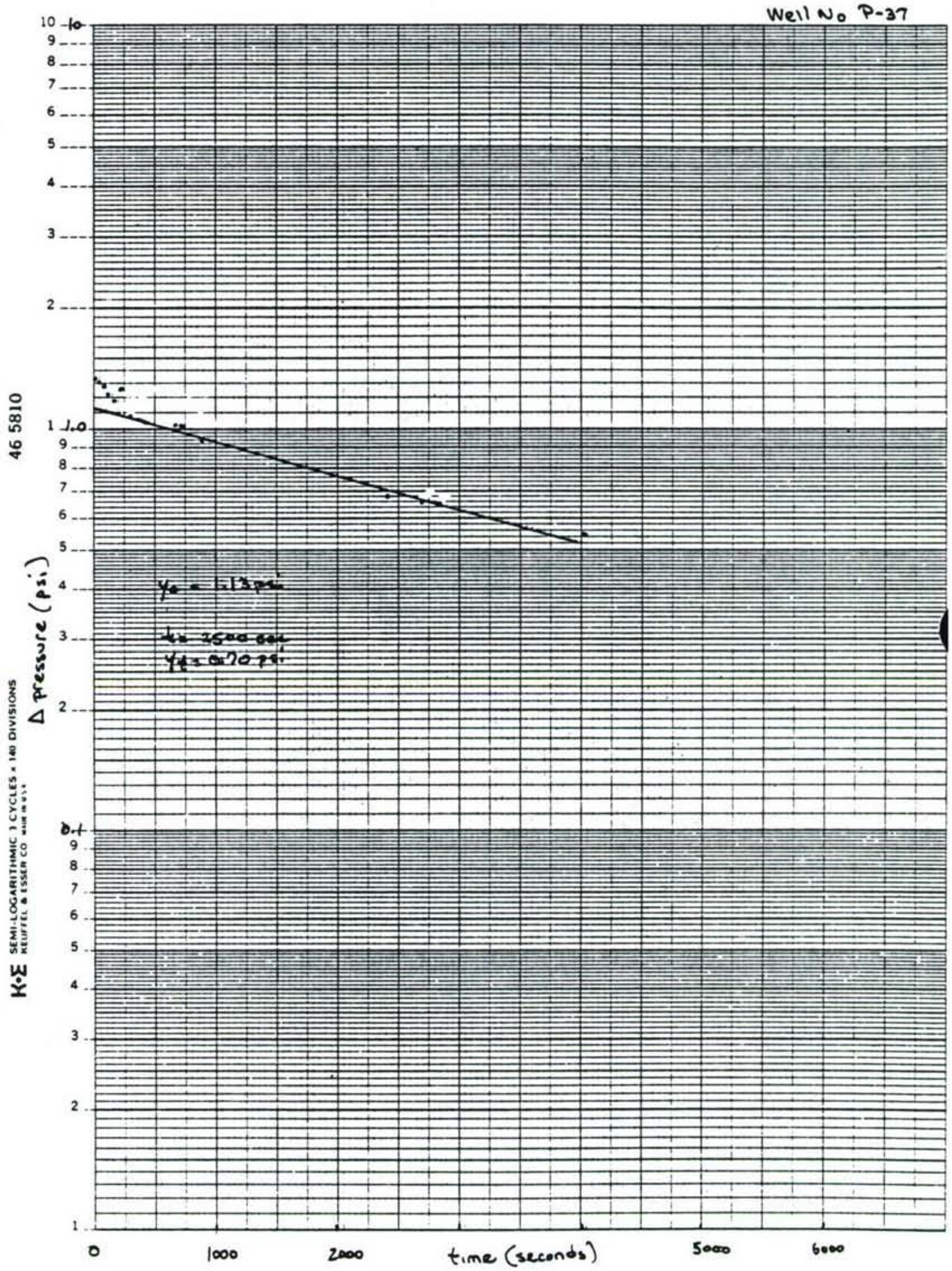


Well Radius		L	D	H	r_c	$r_c^2/2L$
casing	gravel pack					
0.1667'	0.333'	8.5'	8.5'	8.5'	0.230'	0.00311

r_w	L/r_w	A	B	C	Ln R_e/r_w
0.333'	25.5	—	—	1.8	2.438

Y_o	t	Y_t	$\frac{1}{t} \ln Y_o/Y_t$	$K = \frac{r_c^2}{2L} \times \ln\frac{R_e}{r_w} \times \frac{1}{t}\ln Y_o/Y_t$
2.610'	2500 sec	1.617'	0.00019	4.4×10^{-5} cm/sec

COMMENTS

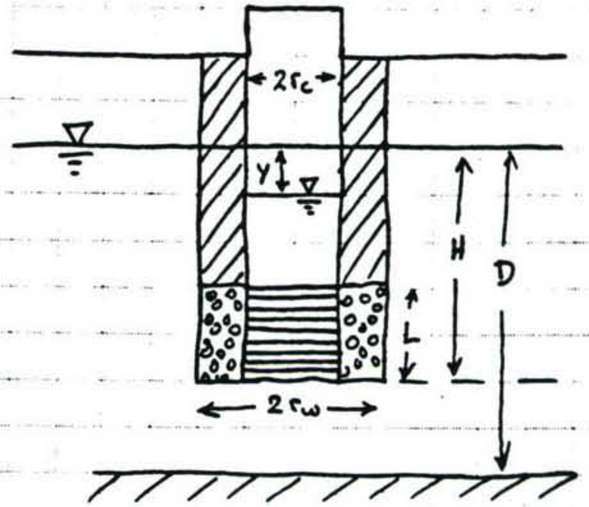


Data plot of elapsed time against change in pressure for Well No. P-37 (SI phase)

ESE
P. O. Box ESE
GAINESVILLE, FLORIDA 32602
(904) 372-3318

SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD



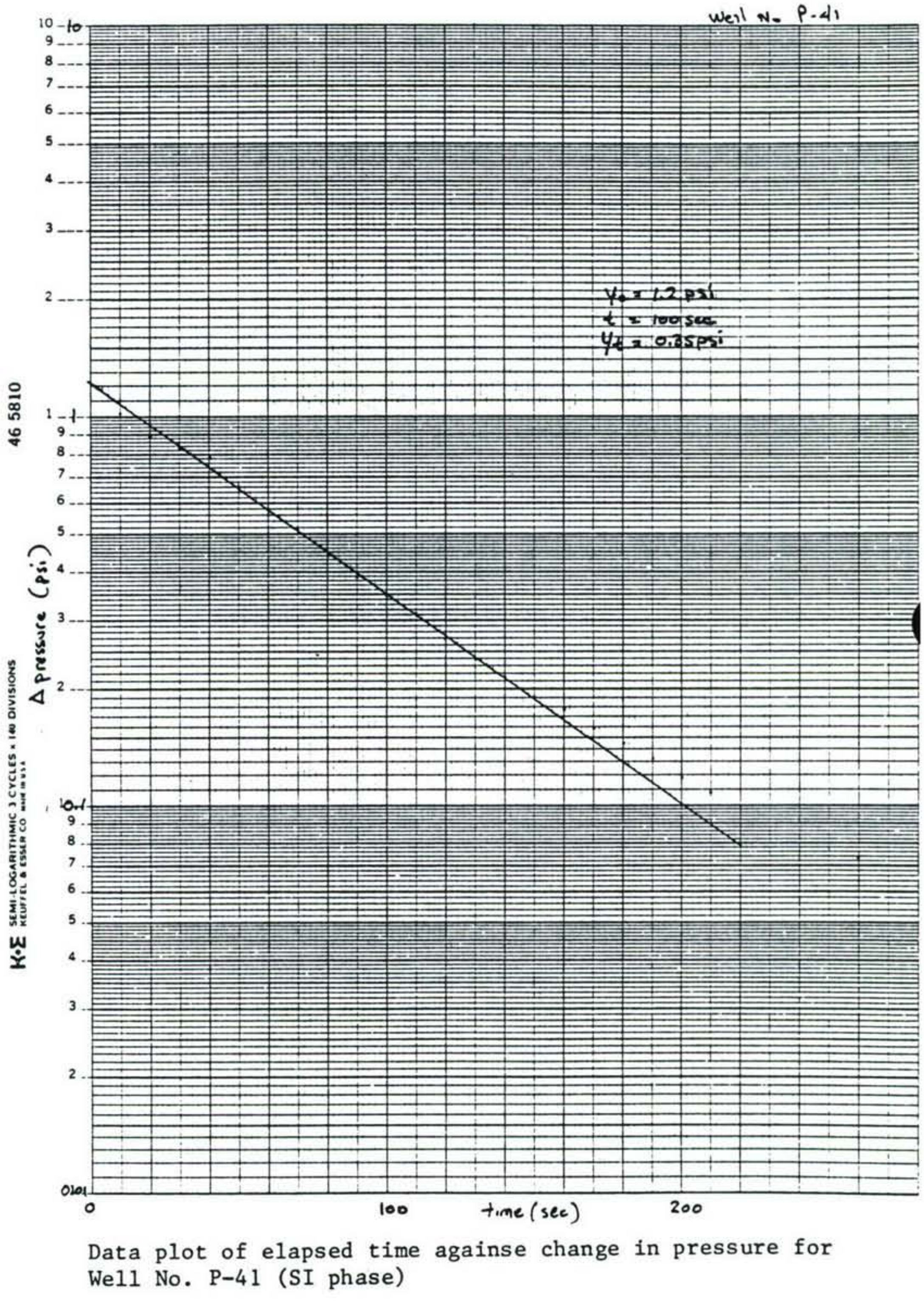
Well No P-41
Date 7-15-81
D+W-mp ______
Dtw-Ls ______

Well Radius casing	Well Radius gravel pack	L	D	H	r_c	$r_c^2/2L$
0.1667	0.333	5.5	5.5	5.5	0.2388	0.00518

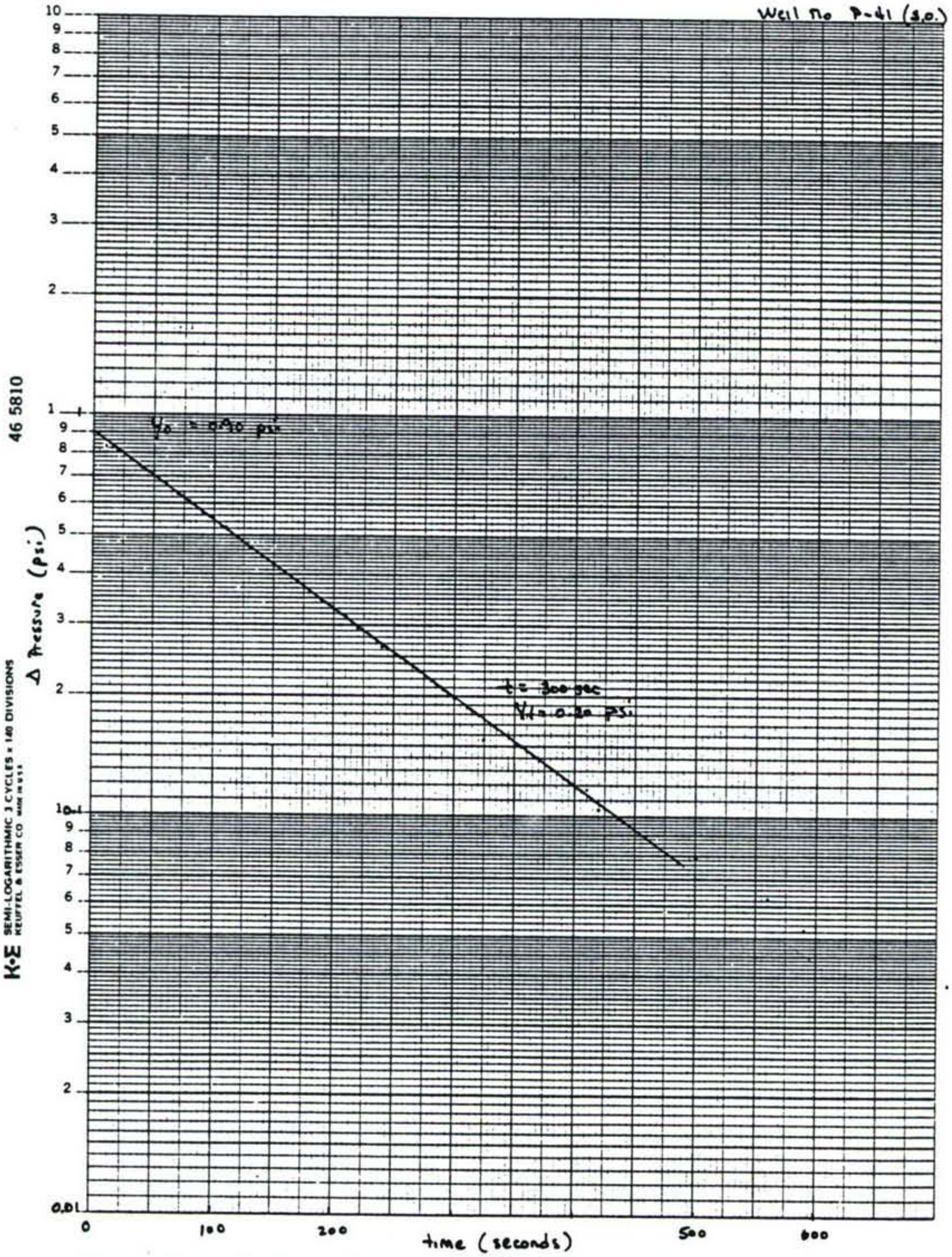
r_w	L/r_w	A	B	C	$\ln R_e/r_w$
0.333	15.53	–	–	1.5	2.01

Y_o	t	Y_t	$1/t \ln Y_o/Y_t$	$K = \frac{r_c^2}{2L} \times \ln\frac{R_e}{r_w} \times \frac{1}{t}\ln Y_o/Y_t$
SI 2.77′	100	0.81′	0.0123	3.9×10^{-3} cm/sec
SO 2.079	300	0.462	0.0050	1.6×10^{-3} cm/sec

COMMENTS



Data plot of elapsed time againse change in pressure for Well No. P-41 (SI phase)

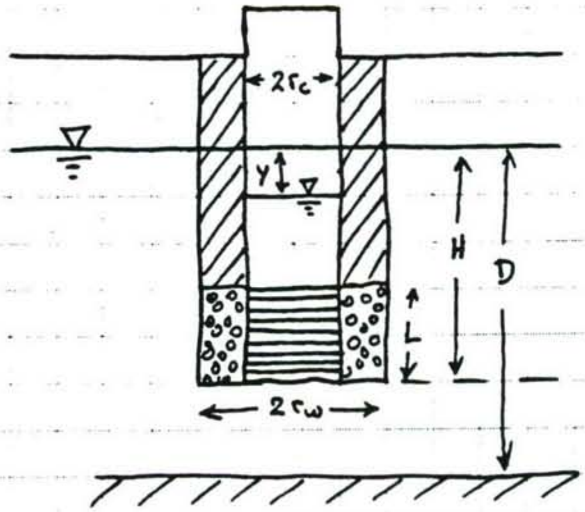


Data plot of elapsed time againse change in pressure for Well No. P-41 (SO phase)

ESE
P. O. Box ESE
GAINESVILLE, FLORIDA 32602
(904) 372-3318

SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

SLUG TEST CALCULATION
BOUWER & RICE (1976) METHOD



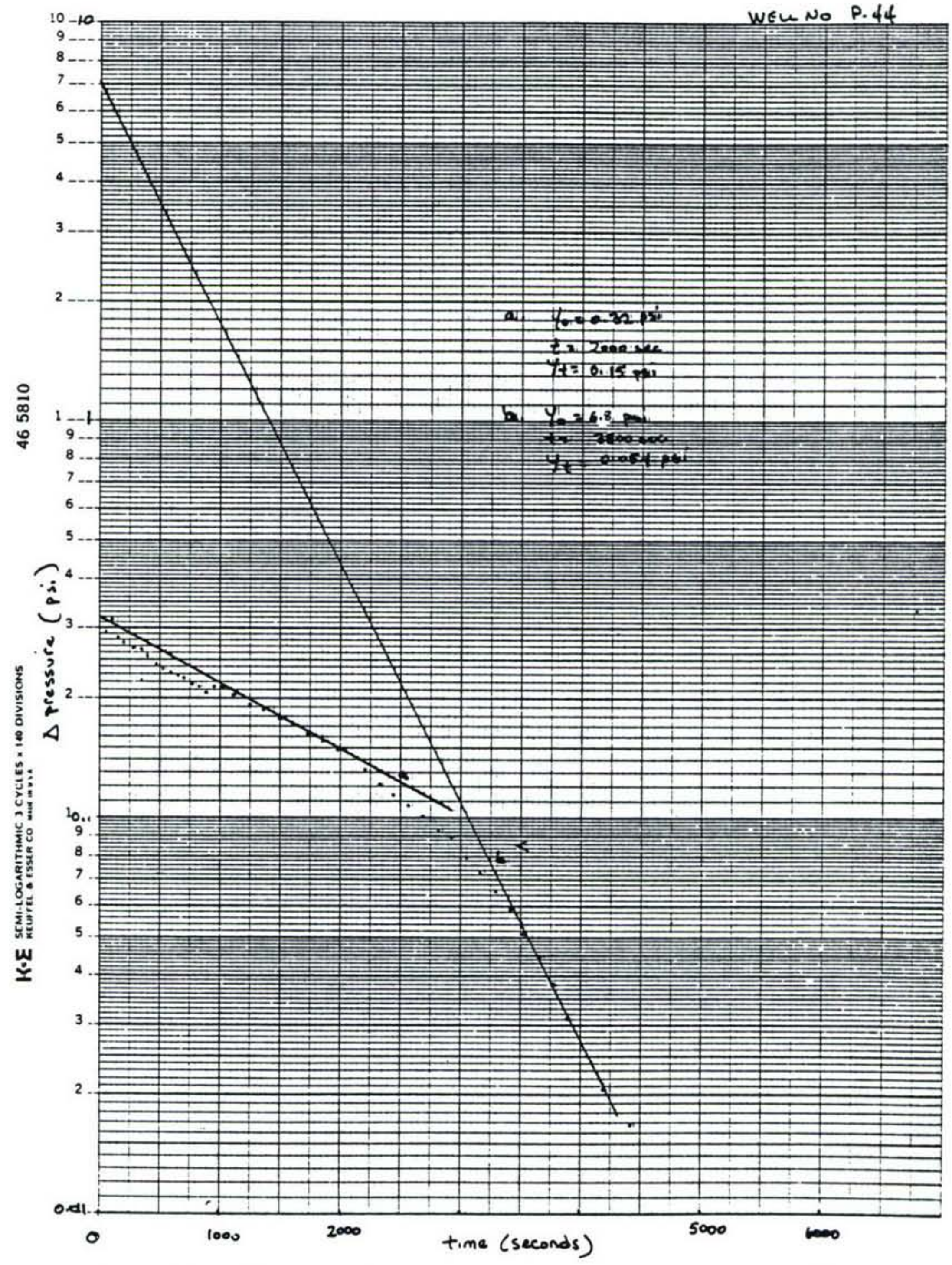
Well No ___P-44___
Date ___7-15-81___
Dtw-mp ___22' 2"___
Dtw-Ls ______

Well Radius		L	D	H	r_c	$r_c^2/2L$
casing	gravel pack					
0.1667'	0.333	27.83	27.83	27.83	0.239	0.00103

r_w	L/r_w	A	B	C	$\ln R_e/r_w$
0.354	78.62	—	—	3.5	3.372

Y_o	t sec	Y_t	$\frac{1}{t}\ln Y_o/Y_t$	$K = \frac{r_c^2}{2L} \times \ln\frac{R_e}{r_w} \times \frac{1}{t}\ln Y_o/Y_t$
a 0.739'	2000	0.346	0.000379	1.3×10^{-6} cm/sec
b .15.70'	3500	0.127'	0.00138	1.5×10^{-4} cm/sec

COMMENTS: Plot of time vs DP shows two slopes. Early time data, up to 2000 sec, is calculated as as a (above). Late time data is shown as b.



Data plot of elapsed time against change in pressure for
Well No. P-44 (SI phase)

APPENDIX B

COMPUTER FILE LISTING

The data files listed below are in the UNIVAC 1108 at Aberdeen Proving Ground, Maryland.

File	Tier-2 Name	Date Entered
Chemical File, Phase II	ALSACGW81160	6/9/81
Groundwater Stabilization File, Phase II	ALSAGGS81154	6/3/81
Field Drilling File, Phase II	ALSAGFD81141	5/21/81
Map File, Phase I and Phase II	ALSAGMA81139	5/19/81

APPENDIX C

FIELD DRILLING FILE--PHASE I

1)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	152	46COLOR01		2YR46	0
2)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	305	46COLOR01		2YR46	0
3)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	457	46COLOR01		2YR36	0
4)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	610	198COLOR01		5YR58	0
5)	ALSAGFDBOREP-1	1292080021P-1	ESLAC		DPTOT01	808CM		0
6)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	0	213GROUT01			0
7)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	0	808LITHL01		RESID	0
8)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	0	808USCS 01		CL	0
9)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	152	46HABL002	9BL		0
10)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	305	46HABL002	10BL		0
11)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	457	46HABL002	11BL		0
12)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	610	46HABL002	4BL		0
13)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	762	46HABL002	7BL		0
14)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	305	46MODIF01		MOT	0
15)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	305	46MODIF01		CAL	0
16)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	610	198MODIF01		S	0
17)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	457	351MOISC01		WET	0
18)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	457	305SCREN01			0
19)	ALSAGFDBOREP-1	1292080021P-1	ESLAC	213	549SFILT01			0
20)	ALSAGFDBOREP-1	1292080021P-1	ESLAC		STKUP01	91CM		0
21)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	30COLOR01		5YR58	0
22)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	152	46COLOR01		75YR700	
23)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	305	46COLOR01		10YR880	
24)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	457	46COLOR01		10YR880	
25)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	610	46COLOR01		75YR780	
26)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	762	46COLOR01		75YR780	
27)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	914	46COLOR01		75YR780	
28)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	30CONSS01		M	0
29)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	152	46CONSS01		VST	0
30)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	305	46CONSS01		SO	0
31)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	457	46CONSS01		M	0
32)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	610	46CONSS01		M	0
33)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	762	46CONSS01		VST	0
34)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	914	46CONSS01		SO	0
35)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	914DPTOT01	914CM		0
36)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	91GROUT01			0
37)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	152	46HABL002	8BL		0
38)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	305	46HABL002	44BL		0
39)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	457	46HABL002	74BL		0
40)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	610	46HABL002	37BL		0
41)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	762	46HABL002	84BL		0
42)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	914	46HABL002	22BL		0
43)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	30MODIF01		0	0
44)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	305	46MODIF01		0	0
45)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	30MOISC01		DRY	0
46)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	152	46MOISC01		WET	0
47)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	305	46MOISC01		WET	0
48)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	457	46MOISC01		DRY	0
49)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	610	46MOISC01		MOIST	0
50)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	762	46MOISC01		MOIST	0
51)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	914	46MOISC01		WET	0
52)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	610	305SCREN01			0
53)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	91	914SFILT01			0
54)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	[illegible]	STKUP01	[illegible]		0
55)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	152USCS 01		CL	0

56)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	152	153USCS 01		CH	0
57)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	305	152USCS 01		CL	0
58)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	457	153USCS 01		CL	0
59)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	610	152USCS 01		CL	0
60)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	762	152USCS 01		CH	0
61)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	914	46USCS 01		CL	0
62)	ALSAGFDBOREP-10	1297780007P-10	ESWDA	0	960LITHL01		RESID	0
63)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	152	351COLOR01		10R68	0
64)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	152	351CONSS01		SO	0
65)	ALSAGFDBOREP-11	1287179360P-11	ESWDA		DPTOT01	518CM		0
66)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	0	152GROUT01			0
67)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	152	46HABL002	19BL		0
68)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	152	351MOISC01		MOIST	0
69)	ALSAGFDBOREP-11	1287179360P-11	ESWDA		RFUSL01	518CM		0
70)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	366	152SCREN01			0
71)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	213	305SFILT01			0
72)	ALSAGFDBOREP-11	1287179360P-11	ESWDA		STKUP01	82CM		0
73)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	0	518LITHL01		RESID	0
74)	ALSAGFDBOREP-11	1287179360P-11	ESWDA	0	518USCS 01		CL	0
75)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	152	914COLOR01		7YR68	0
76)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	152	46CONSS01		SO	0
77)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	305	46CONSS01		M	0
78)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	457	610CONSS01		L	0
79)	ALSAGFDBOREP-12	1307679362P-12	ESWDA		DPTOT01	1067CM		0
80)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	0	290GROUT01			0
81)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	0	1067LITHL01		RESID	0
82)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	152	46HABL002	18BL		0
83)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	305	46HABL002	14BL		0
84)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	457	46HABL002	12BL		0
85)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	610	46HABL002	9BL		0
86)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	762	46HABL002	9BL		0
87)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	914	46HABL002	10BL		0
88)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	610	198MODIF01		O	0
89)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	152	46MOISC01		DRY	0
90)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	305	762MOISC01		MOIST	0
91)	ALSAGFDBOREP-12	1307679362P-12	ESWDA		RFUSL01	1067CM		0
92)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	762	305SCREN01			0
93)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	290	777SFILT01			0
94)	ALSAGFDBOREP-12	1307679362P-12	ESWDA		STKUP01	86CM		0
95)	ALSAGFDBOREP-12	1307679362P-12	ESWDA	0	1067USCS 01		CL	0
96)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	152	655COLOR01		7YR78	0
97)	ALSAGFDBOREP-13	1309279362P-13	ESWDA		DPTOT01	914CM		0
98)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	0	213GROUT01			0
99)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	0	914LITHL01		RESID	0
100)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	152	46HABL002	25BL		0
101)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	305	46HABL002	19BL		0
102)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	457	46HABL002	12BL		0
103)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	610	46HABL002	8BL		0
104)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	762	46HABL002	1BL		0
105)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	457	46MODIF01		MOT	0
106)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	610	46MODIF01		MOT	0
107)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	762	46MODIF01		S	0
108)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	152	46MOISC01		DRY	0
109)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	305	46MOISC01		DRY	0
110)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	457	46MOISC01		LM	0

111)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	762	46MOISC01		WET	0
112)	ALSAGFDBOREP-13	1309279362P-13	ESWDA		RFUSL01	914CM		0
113)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	610	305SCREN01			0
114)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	335	579SFILT01			0
115)	ALSAGFDBOREP-13	1309279362P-13	ESWDA		STKUP01	92CM		0
116)	ALSAGFDBOREP-13	1309279362P-13	ESWDA	0	914USCS 01		CL	0
117)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	152	46COLOR01		2YR48	0
118)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	305	762COLOR01		5YR58	0
119)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	152	46CONSS01		L	0
120)	ALSAGFDBOREP-14	1322480003P-14	ESWDA		DPTOT01	1143CM		0
121)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	1067	76FILL 01			0
122)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	0	91GROUT01			0
123)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	0	1143LITHL01		RESID	0
124)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	152	46HABL002	33BL		0
125)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	305	46HABL002	26BL		0
126)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	457	46HABL002	27BL		0
127)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	610	46HABL002	9BL		0
128)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	762	46HABL002	5BL		0
129)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	914	46HABL002	1BL		0
130)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	152	46MODIF01		MOT	0
131)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	305	46MODIF01		CAL	0
132)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	610	198MODIF01		O	0
133)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	152	503MOISC01		DRY	0
134)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	762	305MOISC01		WET	0
135)	ALSAGFDBOREP-14	1322480003P-14	ESWDA		RFUSL01	1143CM		0
136)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	762	305SCREN01			0
137)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	91	975SFILT01			0
138)	ALSAGFDBOREP-14	1322480003P-14	ESWDA		STKUP01	91CM		0
139)	ALSAGFDBOREP-14	1322480003P-14	ESWDA	0	1143USCS 01		CL	0
140)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	0	914COLOR01		25YR46	0
141)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	0	914CONSS01		M	0
142)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	0	914DPTOT01	960CM		0
143)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	0	305GROUT01			0
144)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	0	960LITHL01		RESID	0
145)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	152	46HABL002	6BL		0
146)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	305	46HABL002	14BL		0
147)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	457	46HABL002	29BL		0
148)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	610	46HABL002	19BL		0
149)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	762	46HABL002	12BL		0
150)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	914	46HABL002	14BL		0
151)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	0	198MOISC01		DRY	0
152)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	305	610MOISC01		MOIST	0
153)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	610	305SCREN01			0
154)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	305	609SFILT01			0
155)	ALSAGFDBOREP-15	1347979353P-15	ESWDA		STKUP01	91CM		0
156)	ALSAGFDBOREP-15	1347979353P-15	ESWDA	0	960USCS 01		CL	0
157)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	152	46COLOR01		25YR46	0
158)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	305	457COLOR01		5YR58	0
159)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	0	808CONSS01		M	0
160)	ALSAGFDBOREP-16	1342879353P-16	ESWDA		DPTOT01	808CM		0
161)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	0	244GROUT01			0
162)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	0	808LITHL01		RESID	0
163)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	152	46HABL002	[illegible]BL		0
164)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	305	46HABL002	30BL		0
165)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	457	46HABL002	3[illegible]BL		0

(	166)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	610	46HABL002	14BL		0
(	167)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	762	46HABL002	12BL		0
(	168)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	152	46MOISC01		MOIST	0
(	169)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	457	305MOISC01		WET	0
(	170)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	305	46MOISC01		MOIST	0
(	171)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	457	305SCREN01			0
(	172)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	244	762SFILT01			0
(	173)	ALSAGFDBOREP-16	1342879353P-16	ESWDA		STKUP01	91CM		0
(	174)	ALSAGFDBOREP-16	1342879353P-16	ESWDA	0	762USCS 01		CL	0
(	175)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	0	198COLOR01		10R56	0
(	176)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	305	198COLOR01		10R46	0
(	177)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	610	46COLOR01		5YR58	0
(	178)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	762	198COLOR01		25YR48	0
(	179)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	1067	46COLOR01		5YR58	0
(	180)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	0	198CONSS01		M	0
(	181)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	305	198CONSS01		M	0
(	182)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	610	46CONSS01		M	0
(	183)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	762	198CONSS01		M	0
(	184)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	1067	46CONSS01		ST	0
(	185)	ALSAGFDBOREP-17	1331979354P-17	ESWDA		DPTOT01	1113CM		0
(	186)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	1067	46FILL 01			0
(	187)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	0	305GROUT01			0
(	188)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	0	1113LITHL01		RESID	0
(	189)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	152	46HABL002	38BL		0
(	190)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	305	46HABL002	18BL		0
(	191)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	457	46HABL002	12BL		0
(	192)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	610	46HABL002	16BL		0
(	193)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	762	46HABL002	9BL		0
(	194)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	914	46HABL002	9BL		0
(	195)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	0	198MODIF01		O	0
(	196)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	0	198MOISC01		MOIST	0
(	197)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	305	198MOISC01		MOIST	0
(	198)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	610	46MOISC01		WET	0
(	199)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	762	198MOISC01		WET	0
(	200)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	1067	46MOISC01		WET	0
(	201)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	762	305SCREN01			0
(	202)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	305	762SFILT01			0
(	203)	ALSAGFDBOREP-17	1331979354P-17	ESWDA		STKUP01	91CM		0
(	204)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	0	305USCS 01		CL	0
(	205)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	305	305USCS 01		CL	0
(	206)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	610	152USCS 01		CL	0
(	207)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	762	305USCS 01		CL	0
(	208)	ALSAGFDBOREP-17	1331979354P-17	ESWDA	1067	46USCS 01		CH	0
(	209)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	152	46COLOR01		5YR58	0
(	210)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	305	46COLOR01		2YR58	0
(	211)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	457	198COLOR01		7YR78	0
(	212)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	152	46CONSS01		SO	0
(	213)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	305	198CONSS01		VST	0
(	214)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	610	46CONSS01		SO	0
(	215)	ALSAGFDBOREP-18	1336579354P-18	ESWDA		DPTOT01	655CM		0
(	216)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	610	46FILL 01			0
(	217)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	0	229GROUT01			0
(	218)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	0	655LITHL01		RESID	0
(	219)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	152	46HABL002	10BL		0
(	220)	ALSAGFDBOREP-18	13365 [illegible] 54P-18	ESWDA	305	46HABL002	11BL		0

221)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	457	46HABL002	26BL		0
222)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	610	46HABL002	22BL		0
223)	ALSAGFDBOREP-18	1336579355P-18	ESWDA	152	46MODIF01		0	0
224)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	305	46MOISC01		WET	0
225)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	457	198MOISC01		MOIST	0
226)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	305	305SCREN01			0
227)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	229	381SFILT01			0
228)	ALSAGFDBOREP-18	1336579354P-18	ESWDA		STKUP01	91CM		0
229)	ALSAGFDBOREP-18	1336579354P-18	ESWDA	0	655USCS 01		CL	0
230)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	152	46COLOR01		5YR58	0
231)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	305	198COLOR01		7YR68	0
232)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	610	320COLOR01		2YR58	0
233)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	152	351CONSS01		ST	0
234)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	610	320CONSS01		VST	0
235)	ALSAGFDBOREP-19	1329780016P-19	ESWDA		DPTOT01	930CM		0
236)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	914	15FILL 01			0
237)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	0	122GROUT01			0
238)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	0	930LITHL01		RESID	0
239)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	152	46HABL002	11BL		0
240)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	305	46HABL002	10BL		0
241)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	457	46HABL002	9BL		0
242)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	610	46HABL002	7BL		0
243)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	762	46HABL002	9BL		0
244)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	152	46MODIF01		0	0
245)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	152	46MOISC01		WET	0
246)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	305	196MODIF01		0	0
247)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	305	196MOISC01		WET	0
248)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	610	305MODIF01		0	0
249)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	610	305MOISC01		WET	0
250)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	610	305SCREN01			0
251)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	457	457SFILT01			0
252)	ALSAGFDBOREP-19	1329780016P-19	ESWDA		STKUP01	91CM		0
253)	ALSAGFDBOREP-19	1329780016P-19	ESWDA	0	930USCS 01		CL	0
254)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	152	46COLOR01		5YR58	0
255)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	305	46COLOR01		5YR22	0
256)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	610	46COLOR01		10YR68	0
257)	ALSAGFDBOREP-2	1305780017P-2	ESLAC		DPTOT01	655CM		0
258)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	579	76FILL 01			0
259)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	0	122GROUT01			0
260)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	0	610LITHL01		RESID	0
261)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	152	46HABL002	12BL		0
262)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	305	46HABL002	39BL		0
263)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	457	46HABL002	17BL		0
264)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	610	46HABL002	10BL		0
265)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	152	46MOISC01		WET	0
266)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	152	46MODIF01		G	0
267)	ALSAGFDBOREP-2	1305780021P-2	ESLAC	152	46MODIF01		WG	0
268)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	305	46MODIF01		G	0
269)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	305	46MOISC01		WET	0
270)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	305	46MODIF01		MOT	0
271)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	305	46MODIF01		CAL	0
272)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	457	46MODIF01		G	0
273)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	457	46MOISC01		WET	0
274)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	610	46MODIF01		G	0
275)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	[illegible]	45LITHL01		GRTZ	0

276)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	610	46MODIF01		MOT	0
277)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	274	305SCREN01			0
278)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	122	457SFILT01			0
279)	ALSAGFDBOREP-2	1305780017P-2	ESLAC		STKUP01	122CM		0
280)	ALSAGFDBOREP-2	1305780017P-2	ESLAC	0	655USCS 01		CL	0
281)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	152	46COLOR01		10YR88	0
282)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	305	46COLOR01		10YR88	0
283)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	457	46COLOR01		5YR58	0
284)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	610	198COLOR01		5YR58	0
285)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	914	198COLOR01		5YR58	0
286)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	1219	46COLOR01		5YR58	0
287)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	152	46CONSS01		VST	0
288)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	305	46CONSS01		VST	0
289)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	457	46CONSS01		VST	0
290)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	610	198CONSS01		VST	0
291)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	914	198CONSS01		VST	0
292)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	1219	46CONSS01		VST	0
293)	ALSAGFDBOREP-20	1339880004P-20	ESWDA		DPTOT01	1265CM		0
294)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	1204	61FILL 01			0
295)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	0	183GROUT01			0
296)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	0	1265LITHL01		RESID	0
297)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	152	46HABL002	50BL		0
298)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	305	46HABL002	44BL		0
299)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	457	46HABL002	16BL		0
300)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	610	46HABL002	12BL		0
301)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	762	46HABL002	12BL		0
302)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	914	46HABL002	50BL		0
303)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	1067	46HABL002	14BL		0
304)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	1219	46HABL002	9BL		0
305)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	610	198MODIF01		O	0
306)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	914	198MODIF01		O	0
307)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	152	46MOISC01		DRY	0
308)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	305	46MOISC01		DRY	0
309)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	457	46MOISC01		DRY	0
310)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	914	198MOISC01		WET	0
311)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	1219	46MOISC01		WET	0
312)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	899	305SCREN01			0
313)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	183	1204SFILT01			0
314)	ALSAGFDBOREP-20	1339880004P-20	ESWDA		STKUP01	91CM		0
315)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	0	152USCS 01		CH	0
316)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	152	153USCS 01		CH	0
317)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	1219	46USCS 01		CH	0
318)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	305	152USCS 01		CH	0
319)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	457	153USCS 01		CH	0
320)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	610	304USCS 01		CH	0
321)	ALSAGFDBOREP-20	1339880004P-20	ESWDA	914	305USCS 01		CH	0
322)	ALSAGFDBOREP-21	1458479339P-21	ESWDA	152	503COLOR01		75YR68	0
323)	ALSAGFDBOREP-21	1458479339P-21	ESWDA	762	198COLOR01		75YR78	0
324)	ALSAGFDBOREP-21	1458479339P-21	ESWDA	305	46CONSS01		FR	0
325)	ALSAGFDBOREP-21	1458479339P-21	ESWDA		DPTOT01	1063CM		0
326)	ALSAGFDBOREP-21	1458479339P-21	ESWDA	0	305GROUT01			0
327)	ALSAGFDBOREP-21	1458479339P-21	ESWDA	0	1063LITHL01		RESID	0
328)	ALSAGFDBOREP-21	1458479339P-21	ESWDA	152	46HABL002	52BL		0
329)	ALSAGFDBOREP-21	1458479339P-21	ESWDA	305	46HABL002	41BL		0
330)	ALSAGFDBOREP-21	14584793[illegible]-21	ESWDA	457	46HABL002	35BL		0

331)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	610	46HABL002	32BL		0
332)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	762	46HABL002	23BL		0
333)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	914	46HABL002	26BL		0
334)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	305	46MODIF01		MOT	0
335)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	152	503MOISC01		DRY	0
336)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	762	46MOISC01		DRY	0
337)	ALSAGFDBOREP-21	1498479339P-21	ESWDA		RFUSL01	1063CM		0
338)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	765	296SCREN01			0
339)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	305	756SFILT01			0
340)	ALSAGFDBOREP-21	1498479339P-21	ESWDA		STKUP01	95CM		0
341)	ALSAGFDBOREP-21	1498479339P-21	ESWDA	0	1063USCS 01		CL	0
342)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	152	198COLOR01		2YR36	0
343)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	457	46COLOR01		2YR46	0
344)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	610	46COLOR01		10YR68	0
345)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	762	46COLOR01		7YR78	0
346)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	152	503CONSS01		VST	0
347)	ALSAGFDBOREP-22	1453980023P-22	ESLAC		DPTOT01	808CM		0
348)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	762	46FILL 01			0
349)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	0	213GROUT01			0
350)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	0	808LITHL01		RESID	0
351)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	152	46HABL002	25BL		0
352)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	305	46HABL002	18BL		0
353)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	457	46HABL002	8BL		0
354)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	610	46HABL002	9BL		0
355)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	762	46HABL002	20BL		0
356)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	305	46MODIF01		TRS	0
357)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	305	46MODIF01		TRCL	0
358)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	610	46MODIF01		MOT	0
359)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	305	351MOISC01		WET	0
360)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	762	46MOISC01		DRY	0
361)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	457	305SCREN01			0
362)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	213	549SFILT01			0
363)	ALSAGFDBOREP-22	1453980023P-22	ESLAC		STKUP01	91CM		0
364)	ALSAGFDBOREP-22	1453980023P-22	ESLAC	0	808USCS 01		CL	0
365)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	152	503COLOR01		10YR88	0
366)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	762	198COLOR01		2YR48	0
367)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1067	503COLOR01		5YR68	0
368)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	305	655CONSS01		L	0
369)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1067	503CONSS01		ST	0
370)	ALSAGFDBOREP-23	1424679339P-23	ESWDA		DPTOT01	1570CM		0
371)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1524	46FILL 01			0
372)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	0	305GROUT01			0
373)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	0	1570LITHL01		RESID	0
374)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	152	46HABL002	29BL		0
375)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	305	46HABL002	39BL		0
376)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	457	46HABL002	30BL		0
377)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	610	46HABL002	25BL		0
378)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	762	46HABL002	15BL		0
379)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	914	46HABL002	22BL		0
380)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1067	46HABL002	27BL		0
381)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1219	46HABL002	15BL		0
382)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1372	46HABL002	23BL		0
383)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1524	46HABL002	23BL		0
384)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	762	198MODIF01		D	0
385)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1067	503MOISC01		MOIST	0

(	386)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	1240	284SCREN01			0
(	387)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	305	1219SFILT01			0
(	388)	ALSAGFDBOREP-23	1424679339P-23	ESWDA		STKUP01	8CM		0
(	389)	ALSAGFDBOREP-23	1424679339P-23	ESWDA	0	1570USCS 01		CL	0
(	390)	ALSAGFDBOREP-24	1440680059P-24	ESMK		DPTOT01	244CM		0
(	391)	ALSAGFDBOREP-24	1440680059P-24	ESMK	0	30GROUT01			0
(	392)	ALSAGFDBOREP-24	1440680059P-24	ESMK		RFUSL01	244CM		0
(	393)	ALSAGFDBOREP-24	1440680059P-24	ESMK	91	152SCREN01			0
(	394)	ALSAGFDBOREP-24	1440680059P-24	ESMK		STKUP01	30CM		0
(	395)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	0	198COLOR01		25YR480	
(	396)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	305	46COLOR01		25YR480	
(	397)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	457	46COLOR01		25YR8B 0	
(	398)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	610	46COLOR01		10YR880	
(	399)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	762	46COLOR01		10YR880	
(	400)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	914	396COLOR01		75YR780	
(	401)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	0	198CONSS01		M	0
(	402)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	305	46CONSS01		M	0
(	403)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	457	46CONSS01		M	0
(	404)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	610	46CONSS01		M	0
(	405)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	762	46CONSS01		M	0
(	406)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	914	396CONSS01		M	0
(	407)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	0	1311DPTOT01	1311CM		0
(	408)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	1097	214FILL 01			0
(	409)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	0	213GROUT01			0
(	410)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	0	1311LITHL01		RESID	0
(	411)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	152	46HABL002	13BL		0
(	412)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	305	46HABL002	15BL		0
(	413)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	457	46HABL002	90BL		0
(	414)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	610	46HABL002	65BL		0
(	415)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	762	46HABL002	41BL		0
(	416)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	914	46HABL002	29BL		0
(	417)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	1067	46HABL002	34BL		0
(	418)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	1219	46HABL002	25BL		0
(	419)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	762	46MOISC01		LM	0
(	420)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	914	396MODIF01		O	0
(	421)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	0	198MOISC01		MOIST	0
(	422)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	305	46MOISC01		DRY	0
(	423)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	457	46MOISC01		LM	0
(	424)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	610	46MOISC01		LM	0
(	425)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	914	396MOISC01		LM	0
(	426)	ALSAGFDBOREP-25	1490480007P-25	ESWDA		RFUSLC1	1311CM		0
(	427)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	792	305SCREN01			0
(	428)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	213	884SFILT01			0
(	429)	ALSAGFDBOREP-25	1490480007P-25	ESWDA		STKUP01	91CM		0
(	430)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	0	305USCS 01		CL	0
(	431)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	305	152USCS 01		CL	0
(	432)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	457	153USCS 01		CL	0
(	433)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	610	152USCS 01		CL	0
(	434)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	762	152USCS 01		CL	0
(	435)	ALSAGFDBOREP-25	1490480007P-25	ESWDA	914	397USCS 01		CL	0
(	436)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	152	46COLOR01		2YR58	0
(	437)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	305	503COLOR01		2YR48	0
(	438)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	914	351COLOR01		7YR78	0
(	439)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	152	46CONSS01		ST	0
(	440)	ALSAGFDBOREP-26	142[illegible]14P-26	ESWDA	914	503CONSS01		ST	0

441)	ALSAGFDBOREP-26	1428980014P-26	ESWDA		DPTOT01	1570CM		0
442)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	1524	46FILL 01			0
443)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	0	305GROUT01			0
444)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	0	1570LITHL01		RESID	0
445)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	152	46HABL002	23BL		0
446)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	305	46HABL002	66BL		0
447)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	457	46HABL002	18BL		0
448)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	610	46HABL002	26BL		0
449)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	762	46HABL002	35BL		0
450)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	914	46HABL002	25BL		0
451)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	1067	46HABL002	31BL		0
452)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	1219	46HABL002	27BL		0
453)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	1372	46HABL002	26BL		0
454)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	1524	46HABL002	72BL		0
455)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	152	46MODIF01		MOT	0
456)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	457	457MODIF01		0	0
457)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	914	351MODIF01		0	0
458)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	152	46MOISC01		MOIST	0
459)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	457	1113MOISC01		MOIST	0
460)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	1219	305SCREN01			0
461)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	305	1219SFILT01			0
462)	ALSAGFDBOREP-26	1428980014P-26	ESWDA		STKUP01	76CM		0
463)	ALSAGFDBOREP-26	1428980014P-26	ESWDA	0	1570USCS 01		CL	0
464)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	152	46COLOR01		2YR58	0
465)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	305	46COLOR01		7YR76	0
466)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	457	46COLOR01		7YR78	0
467)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	610	46COLOR01		7YR78	0
468)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	457	46CONSS01		VST	0
469)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	610	46CONSS01		VST	0
470)	ALSAGFDBOREP-27	1387780016P-27	ESWDA		DPTOT01	671CM		0
471)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	655	15FILL 01			0
472)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	0	183GROUT01			0
473)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	0	671LITHL01		RESID	0
474)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	152	46HABL002	10BL		0
475)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	305	46HABL002	18BL		0
476)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	457	46HABL002	33BL		0
477)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	610	46HABL002	24BL		0
478)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	152	46MODIF01		0	0
479)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	305	46MODIF01		0	0
480)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	457	46MODIF01		0	0
481)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	152	168MOISC01		WET	0
482)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	457	46MOISC01		MOIST	0
483)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	610	46MOISC01		MOIST	0
484)	ALSAGFDBOREP-27	1387780016P-27	ESWDA		RFUSL01	671CM		0
485)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	351	305SCREN01			0
486)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	183	472SFILT01			0
487)	ALSAGFDBOREP-27	1387780016P-27	ESWDA		STKUP01	107CM		0
488)	ALSAGFDBOREP-27	1387780016P-27	ESWDA	0	671USCS 01		CL	0
489)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	152	46COLOR01		10YR78	0
490)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	305	198COLOR01		2YR48	0
491)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	610	46COLOR01		2YR46	0
492)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	762	46COLOR01		10YR68	0
493)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	152	46CONSS01		ST	0
494)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	305	46CONSS01		VST	0
495)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	610	46CONSS01		ST	0

496)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	762	46CONSS01		VST	0
497)	ALSAGFDBOREP-28	1503280008P-28	ESWDA		DPTOT01	823CM		0
498)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	0	305GROUT01			0
499)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	0	823LITHL01		RESID	0
500)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	152	46HABL002	52BL		0
501)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	305	46HABL002	19BL		0
502)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	457	46HABL002	25BL		0
503)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	610	46HABL002	19BL		0
504)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	762	46HABL002	19BL		0
505)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	305	198CONSS01		M	0
506)	ALSAGFDBOREP-28	1503280008P-28	ESWDA	457	198MODIF01		O	0
507)	ALSAGFDBOREP-28	1503280015P-28	ESWDA	152	46MOISC01		DRY	0
508)	ALSAGFDBOREP-28	1503280015P-28	ESWDA	305	351MOISC01		MOIST	0
509)	ALSAGFDBOREP-28	1503280015P-28	ESWDA	762	46MOISC01		WET	0
510)	ALSAGFDBOREP-28	1503280015P-28	ESWDA		RFUSL01	823CM		0
511)	ALSAGFDBOREP-28	1503280015P-28	ESWDA	518	305SCREN01			0
512)	ALSAGFDBOREP-28	1503280015P-28	ESWDA	305	518SFILT01			0
513)	ALSAGFDBOREP-28	1503280015P-28	ESWDA		STKUP01	61CM		0
514)	ALSAGFDBOREP-28	1503280015P-28	ESWDA	0	823USCS 01		CL	0
515)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	152	46COLOR01		7YR70	0
516)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	152	46CONSS01		M	0
517)	ALSAGFDBOREP-29	1428380011P-29	ESWDA		DPTOT01	229CM		0
518)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	0	107GROUT01			0
519)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	0	229LITHL01		RESID	0
520)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	152	46HABL002	15BL		0
521)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	152	46MOISC01		MOIST	0
522)	ALSAGFDBOREP-29	1428380011P-29	ESWDA		RFUSL01	229CM		0
523)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	137	91SCREN01			0
524)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	107	122SFILT01			0
525)	ALSAGFDBOREP-29	1428380011P-29	ESWDA		STKUP01	76CM		0
526)	ALSAGFDBOREP-29	1428380011P-29	ESWDA	0	229USCS 01		CL	0
527)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	0	15COLOR01		5YR56	0
528)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	152	46COLOR01		5YR61	0
529)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	305	46COLOR01		5Y41	0
530)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	457	46COLOR01		10YR84	0
531)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	152	351CONSS01		ST	0
532)	ALSAGFDBOREP-3	1290279340P-3	ESWDA		DPTOT01	503CM		0
533)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	472	31FILL 01			0
534)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	0	107GROUT01			0
535)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	0	503LITHL01		RESID	0
536)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	152	46HABL002	9BL		0
537)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	305	46HABL002	12BL		0
538)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	457	46HABL002	4BL		0
539)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	0	15MODIF01		O	0
540)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	152	46MODIF01		RT	0
541)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	305	46MODIF01		RT	0
542)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	366	106MOISC01		WET	0
543)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	0	15MOISC01		MOIST	0
544)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	381	91SCREN01			0
545)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	244	229SFILT01			0
546)	ALSAGFDBOREP-3	1290279340P-3	ESWDA		STKUP01	69CM		0
547)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	0	457USCS 01		CL	0
548)	ALSAGFDBOREP-3	1290279340P-3	ESWDA	457	46USCS 01		CH	0
549)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	0	30COLOR01		25YR46	0
550)	ALSAGFDBOREP-30	13742[illegible]P-30	ESWDA	152	46COLOR01		25YR46	0

551)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	305	46COLOR01		25YR460	
552)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	457	152COLOR01		25YR460	
553)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	457	152CONSS01		VST	0
554)	ALSAGFDBOREP-30	1374280005P-30	ESWDA		DPTOT01	655CM		0
555)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	625	30FILL 01			0
556)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	0	213GROUT01			0
557)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	152	46HABL002	74BL		0
558)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	305	46HABL002	24BL		0
559)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	457	46HABL002	28BL		0
560)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	610	46HABL002	50BL		0
561)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	457	152MODIF01		0	0
562)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	0	30MOISC01		DRY	0
563)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	152	46MOISC01		DRY	0
564)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	305	46MOISC01		DRY	0
565)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	457	152MOISC01		DRY	0
566)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	0	640RFUSL01	655CM		0
567)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	320	305SCREN01			0
568)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	213	411SFILT01			0
569)	ALSAGFDBOREP-30	1374280005P-30	ESWDA		STKUP01	911CM		0
570)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	0	152USCS 01		CL	0
571)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	152	153USCS 01		CL	0
572)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	305	152USCS 01		CH	0
573)	ALSAGFDBOREP-30	1374280005P-30	ESWDA	457	198USCS 01		CH	0
574)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	0	351COLOR01		5YR58	0
575)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	457	46COLOR01		5YR58	0
576)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	610	46COLOR01		5YR58	0
577)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	762	46COLOR01		5YR58	0
578)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	0	351CONSS01		M	0
579)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	457	46CONSS01		M	0
580)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	610	46CONSS01		M	0
581)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	762	46CONSS01		M	0
582)	ALSAGFDBOREP-4	1288679352P-4	ESWDA		DPTOT01	960CM		0
583)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	853	107FILL 01			0
584)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	0	305GROUT01			0
585)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	0	960LITHL01		RESID	0
586)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	0	46HABL002	24BL		0
587)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	341	46HABL002	8BL		0
588)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	457	46HABL002	5BL		0
589)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	610	46HABL002	13BL		0
590)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	762	46HABL002	4BL		0
591)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	457	46MODIF01		0	0
592)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	610	46MODIF01		0	0
593)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	762	46MODIF01		0	0
594)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	152	46MOISC01		DRY	0
595)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	341	46MOISC01		MOIST	0
596)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	457	46MOISC01		MOIST	0
597)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	610	46MOISC01		WET	0
598)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	762	46MOISC01		WET	0
599)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	853	305SCREN01			0
600)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	305	548SFILT01			0
601)	ALSAGFDBOREP-4	1288679352P-4	ESWDA		STKUP01	142CM		0
602)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	0	457USCS 01		CL	0
603)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	457	153USCS 01		CL	0
604)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	61[illegible]	152USCS 01		CL	0
605)	ALSAGFDBOREP-4	1288679352P-4	ESWDA	76[illegible]	1[illegible]USCS 01		CL	0

606)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	107	351COLOR01		5YR56	0
607)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	564	46COLOR01		2YR48	0
608)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	716	46COLOR01		2YR58	0
609)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	762	152COLOR01		2YR68	0
610)	ALSAGFDBOREP-5	1296679351P-5	ESWDA		DPTOT01	914CM		0
611)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	0	914LITHL01		RESID	0
612)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	0	305GROUT01			0
613)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	107	46HABL002	23BL		0
614)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	259	46HABL002	27BL		0
615)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	411	46HABL002	14BL		0
616)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	564	46HABL002	11BL		0
617)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	716	46HABL002	13BL		0
618)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	762	46HABL002	12BL		0
619)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	869	46HABL002	18BL		0
620)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	107	198MOISC01		DRY	0
621)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	411	46MOISC01		LM	0
622)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	564	350MOISC01		MOIST	0
623)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	610	305SCREN01			0
624)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	305	610SFILT01			0
625)	ALSAGFDBOREP-5	1296679351P-5	ESWDA		STKUP01	81CM		0
626)	ALSAGFDBOREP-5	1296679351P-5	ESWDA	0	914USCS 01		CL	0
627)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	152	351COLOR01		7YR68	0
628)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	610	46COLOR01		2YR46	0
629)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	762	46COLOR01		7YR78	0
630)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	152	46CONSS01		SO	0
631)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	305	46CONSS01		FR	0
632)	ALSAGFDBOREP-6	1261279352P-6	ESWDA		DPTOT01	1067CM		0
633)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	1006	61FILL 01			0
634)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	0	91GROUT01			0
635)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	0	1067LITHL01		RESID	0
636)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	152	46HABL002	28BL		0
637)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	305	46HABL002	27BL		0
638)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	457	46HABL002	19BL		0
639)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	610	46HABL002	14BL		0
640)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	762	46HABL002	7BL		0
641)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	305	351MOISC01		MOIST	0
642)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	762	46MOISC01		MOIST	0
643)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	244	284SCREN01			0
644)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	91	914SFILT01			0
645)	ALSAGFDBOREP-6	1261279352P-6	ESWDA		STKUP01	132CM		0
646)	ALSAGFDBOREP-6	1261279352P-6	ESWDA	0	1067USCS 01		CL	0
647)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	152	610COLOR01		5YR58	0
648)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	152	610CONSS01		M	0
649)	ALSAGFDBOREP-7	1277979352P-7	ESWDA		DPTOT01	808CM		0
650)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	762	46FILL 01			0
651)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	0	274GROUT01			0
652)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	0	808LITHL01		RESID	0
653)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	152	46HABL002	58BL		0
654)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	305	46HABL002	14BL		0
655)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	457	46HABL002	9BL		0
656)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	610	46HABL002	9BL		0
657)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	762	46HABL002	9BL		0
658)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	152	46MODIF01		MOT	0
659)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	152	46MODIF01		HPL	0
660)	ALSAGFDBOREP-7	1277[illegible]-7	ESWDA	152	[illegible]MOISC01		MOIST	0

661)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	457	198MOISC01		VMOISTO	
662)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	762	46MOISC01		WET	0
663)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	457	305SCREN01			0
664)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	274	488SFILT01			0
665)	ALSAGFDBOREP-7	1277979352P-7	ESWDA		STKUP01	91CM		0
666)	ALSAGFDBOREP-7	1277979352P-7	ESWDA	0	808USCS 01		CH	0
667)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	152	46COLOR01		5YR81	0
668)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	304	46COLOR01		25YR160	
669)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	457	46COLOR01		10YR660	
670)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	610	46COLOR01		10YR660	
671)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	152	46CONSS01		VST	0
672)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	304	46CONSS01		VST	0
673)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	457	46CONSS01		VST	0
674)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	610	46CONSS01		VST	0
675)	ALSAGFDBOREP-8	1280779352P-8	ESWDA		DPTOT01	655CM		0
676)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	0	244GROUT01			0
677)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	0	655LITHL01		RESID	0
678)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	152	46HABL002	33BL		0
679)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	304	46HABL002	16BL		0
680)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	457	46HABL002	18BL		0
681)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	610	46HABL002	3BL		0
682)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	152	46MODIF01		TRG	0
683)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	152	46MOISC01		MOIST	0
684)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	304	46MOISC01		MOIST	0
685)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	457	46MOISC01		MOIST	0
686)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	610	46MOISC01		WET	0
687)	ALSAGFDBOREP-8	1280779352P-8	ESWDA		RFUSL01	655CM		0
688)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	351	305SCREN01			0
689)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	244	655SFILT01			0
690)	ALSAGFDBOREP-8	1280779352P-8	ESWDA		STKUP01	91CM		0
691)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	0	304USCS 01		CL	0
692)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	304	153USCS 01		CH	0
693)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	457	153USCS 01		CH	0
694)	ALSAGFDBOREP-8	1280779352P-8	ESWDA	610	45USCS 01		CH	0
695)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	0	30COLOR01		5YR58	0
696)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	152	610COLOR01		75YR700	
697)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	0	30CONSS01		ST	0
698)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	0	762DPTOT01	808CM		0
699)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	762	46FILL 01			0
700)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	0	213GROUT01			0
701)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	0	808LITHL01		RESID	0
702)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	152	46HABL002	7BL		0
703)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	305	46HABL002	6BL		0
704)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	457	46HABL002	32BL		0
705)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	610	46HABL002	8BL		0
706)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	762	46HABL002	10BL		0
707)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	152	610CONSS01		VST	0
708)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	0	30MOISC01		DRY	0
709)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	152	153MOISC01		MOIST	0
710)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	305	457MOISC01		WET	0
711)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	457	305SCREN01			0
712)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	213	762SFILT01			0
713)	ALSAGFDBOREP-9	1293880005P-9	ESWDA		STKUP01	61CM		0
714)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	0	152USCS 01		CL	0
715)	ALSAGFDBOREP-9	1293880005P-9	ESWDA	152	656USCS 01		CH	0

APPENDIX D

FIELD DRILLING FILE--PHASE II

1)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA		DPTOT01	1463CM		0
2)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1433	30SCREN01			0
3)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1326	107SFILT01			0
4)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	107BSEAL01			0
5)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	0	1219GROUT01			0
6)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA		STKUP01	110CM		0
7)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA		RFUSL01	1463CM		0
8)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	0	152USCS 01		CL	0
9)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	0	152COLOR01		75YR560	
10)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	0	152CONSS01		ST	0
11)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	0	152MOISC01		DRY	0
12)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	0	152LITHL01		RESID	0
13)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	152	153HABL002	10BL		0
14)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	152	153USCS 01		CL	0
15)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	152	153COLOR01		10YR760	
16)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	152	153CONSS01		ST	0
17)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	152	153MOISC01		DRY	0
18)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	152	153LITHL01		RESID	0
19)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	152	153MODIF01		PL	0
20)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	305	152HABL002	11BL		0
21)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	305	152USCS 01		CL	0
22)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	305	152COLOR01		5Y61	0
23)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	305	152CONSS01		ST	0
24)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	305	152MOISC01		DRY	0
25)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	305	152LITHL01		RESID	0
26)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	305	152MODIF01		PL	0
27)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	457	153HABL002	26BL		0
28)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	457	153USCS 01		CL	0
29)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	457	153COLOR01		5Y61	0
30)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	457	153CONSS01		ST	0
31)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	457	153MOISC01		MOIST	0
32)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	457	153LITHL01		RESID	0
33)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	457	153MODIF01		PL	0
34)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	610	152HABL002	8BL		0
35)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	610	152USCS 01		CL	0
36)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	610	152COLOR01		5Y61	0
37)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	610	152CONSS01		ST	0
38)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	610	152MOISC01		MOIST	0
39)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	610	152LITHL01		RESID	0
40)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	610	152MODIF01		PL	0
41)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	762	152HABL002	6BL		0
42)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	762	152USCS 01		CL	0
43)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	762	152COLOR01		5Y61	0
44)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	762	152CONSS01		ST	0
45)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	762	152MOISC01		MOIST	0
46)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	762	152LITHL01		RESID	0
47)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	762	152MODIF01		PL	0
48)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	914	153HABL002	11BL		0
49)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	914	153USCS 01		CL	0
50)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	914	153COLOR01		5Y61	0
51)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	914	153CONSS01		ST	0
52)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	914	153MOISC01		MOIST	0
53)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	914	153LITHL01		RESID	0
54)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	914	153MODIF01		PL	0
55)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1067	152HABL002	7BL		0

56)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1067	152USCS 01		CL	0
57)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1067	152COLOR01		5Y61	0
58)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1067	152CONSS01		ST	0
59)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1067	152MOISC01		VMOIST	0
60)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1067	152LITHL01		RESID	0
61)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1067	152MODIF01		PL	0
62)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	153HABL002	7BL		0
63)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	153USCS 01		CL	0
64)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	153COLOR01		5YR58	0
65)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	153CONSS01		ST	0
66)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	153MOISC01		VMOIST	0
67)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	153LITHL01		RESID	0
68)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1219	153MODIF01		PL	0
69)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1372	91HABL002	4BL		0
70)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1372	91USCS 01		SC	0
71)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1372	91COLOR01		5YR43	0
72)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1372	91CONSS01		L	0
73)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1372	91MOISC01		WET	0
74)	ALSAGFDBOREC-1A	1277681012C-1A	ESWDA	1372	91LITHL01		RESID	0
75)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA		DPTOT01	457CM		0
76)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	427	30SCREN01			0
77)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	376	81SFILT01			0
78)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	290	86BSEAL01			0
79)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	0	290GROUT01			0
80)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA		STKUP01	76CM		0
81)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	0	152USCS 01		CL	0
82)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	0	152COLOR01		75YR56	0
83)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	0	152CONSS01		ST	0
84)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	0	152MOISC01		DRY	0
85)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	0	152LITHL01		RESID	0
86)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	0	152MODIF01		PL	0
87)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	152	153HABL002	10BL		0
88)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	152	153USCS 01		CL	0
89)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	152	153COLOR01		10YR76	0
90)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	152	153CONSS01		ST	0
91)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	152	153MOISC01		DRY	0
92)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	152	153LITHL01		RESID	0
93)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	152	153MODIF01		PL	0
94)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	305	152HABL002	11BL		0
95)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	305	152USCS 01		CL	0
96)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	305	152COLOR01		5Y61	0
97)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	305	152CONSS01		ST	0
98)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	305	152MOISC01		DRY	0
99)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	305	152LITHL01		RESID	0
100)	ALSAGFDBOREC-1B	1293081013C-1B	ESWDA	305	152MODIF01		PL	0
101)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA		DPTOT01	1067CM		0
102)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	1036	30SCREN01			0
103)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	1006	61SFILT01			0
104)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	244BSEAL01			0
105)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	0	762GROUT01			0
106)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA		STKUP01	66CM		0
107)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	0	152USCS 01		CL	0
108)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	0	152COLOR01		75YR56	0
109)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	0	152CONSS01		ST	0
110)	ALSAGFDBOREC-1C	1293[illegible]C-1C	ESWDA	0	152MOISC01		DRY	0

111)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	0	152LITHL01		RESID	0
112)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	0	152MODIF01		PL	0
113)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	152	153HABL002	10BL		0
114)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	152	153USCS 01		CL	0
115)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	152	153COLOR01		10YR76	0
116)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	152	153CONSS01		ST	0
117)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	152	153MOISC01		DRY	0
118)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	152	153LITHL01		RESID	0
119)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	152	153MODIF01		PL	0
120)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	305	152HABL002	11BL		0
121)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	305	152USCS 01		CL	0
122)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	305	152COLOR01		5Y61	0
123)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	305	152CONSS01		ST	0
124)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	305	152MOISC01		DRY	0
125)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	305	152LITHL01		RESID	0
126)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	305	152MODIF01		PL	0
127)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	457	153HABL002	26BL		0
128)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	457	153USCS 01		CL	0
129)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	457	153COLOR01		5Y61	0
130)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	457	153CONSS01		ST	0
131)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	457	153MOISC01		MOIST	0
132)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	457	153LITHL01		RESID	0
133)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	457	153MODIF01		PL	0
134)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	610	152HABL002	8BL		0
135)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	610	152USCS 01		CL	0
136)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	610	152COLOR01		5Y61	0
137)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	610	152CONSS01		ST	0
138)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	610	152MOISC01		MOIST	0
139)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	610	152LITHL01		RESID	0
140)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	610	152MODIF01		PL	0
141)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	152HABL002	6BL		0
142)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	152USCS 01		CL	0
143)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	152COLOR01		5Y61	0
144)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	152CONSS01		ST	0
145)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	152MOISC01		MOIST	0
146)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	152LITHL01		RESID	0
147)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	762	152MODIF01		PL	0
148)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	914	153HABL002	11BL		0
149)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	914	153USCS 01		CL	0
150)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	914	153COLOR01		5Y61	0
151)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	914	153CONSS01		ST	0
152)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	914	153MOISC01		MOIST	0
153)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	914	153LITHL01		RESID	0
154)	ALSAGFDBOREC-1C	1293281013C-1C	ESWDA	914	153MODIF01		PL	0
155)	ALSAGFDBOREC-2	1324281014C-2	ESWDA		DPTOT01	2073CM		0
156)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	1372	701FILL 01			0
157)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	1198	30SCREN01			0
158)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	914	457SFILT01			0
159)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	823	91BSEAL01			0
160)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	0	823GROUT01			0
161)	ALSAGFDBOREC-2	1324281014C-2	ESWDA		STKUP01	64CM		0
162)	ALSAGFDBOREC-2	1324281014C-2	ESWDA		RFUSL01	2073CM		0
163)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	[illegible]	137USCS 01		CL	0
164)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	[illegible]	137COLOR01		5YR44	0
165)	ALSAGFDBOREC-2	1324281014C-2	ESWDA		137CONSS01		ST	0

166)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	0	137MOISC01		DRY	0
167)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	0	137LITHL01		RESID	0
168)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	0	137MODIF01		PL	0
169)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	0	137MODIF01		RT	0
170)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	137	153HABL002	40BL		0
171)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	137	153USCS 01		CL	0
172)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	137	153COLOR01		10R48	0
173)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	137	153CONSS01		ST	0
174)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	137	153MOISC01		MOIST	0
175)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	137	153LITHL01		RESID	0
176)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	137	153MODIF01		PL	0
177)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	290	152HABL002	36BL		0
178)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	290	152USCS 01		CL	0
179)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	290	152COLOR01		10R48	0
180)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	290	152CONSS01		ST	0
181)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	290	152MOISC01		MOIST	0
182)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	290	152LITHL01		RESID	0
183)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	290	152MODIF01		PL	0
184)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	442	152HABL002	18BL		0
185)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	442	152USCS 01		CL	0
186)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	442	152COLOR01		10R48	0
187)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	442	152CONSS01		ST	0
188)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	442	152MOISC01		MOIST	0
189)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	442	152LITHL01		RESID	0
190)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	442	152MODIF01		PL	0
191)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	594	153HABL002	8BL		0
192)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	594	153USCS 01		CL	0
193)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	594	153COLOR01		5YR56	0
194)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	594	153CONSS01		ST	0
195)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	594	153MOISC01		MOIST	0
196)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	594	153LITHL01		RESID	0
197)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	594	153MODIF01		PL	0
198)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	747	1326HABL002	4BL		0
199)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	747	1326USCS 01		CL	0
200)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	747	1326COLOR01		5YR56	0
201)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	747	106CONSS01		ST	0
202)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	747	106MOISC01		MOIST	0
203)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	747	106LITHL01		RESID	0
204)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	747	1326MODIF01		PL	0
205)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	853	1220CONSS01		L	0
206)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	853	1220MOISC01		WET	0
207)	ALSAGFDBOREC-2	1324281014C-2	ESWDA	853	1220LITHL01		MUD	0
208)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA		DPTOT01	1415CM		0
209)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1384	30SCREN01			0
210)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1335	77SFILT01			0
211)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1073	262BSEAL01			0
212)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	0	1073GROUT01			0
213)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA		STKUP01	107CM		0
214)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA		RFUSL01	1415CM		0
215)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	0	152USCS 01		CL	0
216)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	0	152COLOR01		10R58	0
217)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	0	152CONSS01		ST	0
218)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	0	152MOISC01		DRY	0
219)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	0	152LITHL01		RESID	0
220)	ALSAGFDBOREC-3A	1332[illegible]C-3A	ESWDA	152	153HABL002	23BL		0

221)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	152	153USCS 01		CL	0
222)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	152	153COLOR01		10R46	0
223)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	152	153CONSS01		ST	0
224)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	152	153MOISC01		DRY	0
225)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	152	153LITHL01		RESID	0
226)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	152	153MODIF01		0	0
227)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	305	152HABL002	35BL		0
228)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	305	152USCS 01		CL	0
229)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	305	152COLOR01		10R48	0
230)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	305	152CONSS01		ST	0
231)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	305	152MOISC01		DRY	0
232)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	305	152LITHL01		RESID	0
233)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	457	153HABL002	34BL		0
234)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	457	153USCS 01		CL	0
235)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	457	153COLOR01		10R48	0
236)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	457	153CONSS01		ST	0
237)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	457	153MOISC01		LM	0
238)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	457	153LITHL01		RESID	0
239)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	610	152HABL002	39BL		0
240)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	610	152USCS 01		CL	0
241)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	610	152COLOR01		10YR660	
242)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	610	152MODIF01		MOT	0
243)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	610	152CONSS01		ST	0
244)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	610	152MOISC01		LM	0
245)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	610	152LITHL01		RESID	0
246)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	762	152HABL002	25BL		0
247)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	762	152USCS 01		CL	0
248)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	762	152COLOR01		10YR660	
249)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	762	152MODIF01		MOT	0
250)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	762	152CONSS01		ST	0
251)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	762	152MOISC01		LM	0
252)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	762	152LITHL01		RESID	0
253)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	914	153HABL002	27BL		0
254)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	914	153USCS 01		CL	0
255)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	914	153COLOR01		25YR460	
256)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	914	153MOISC01		LM	0
257)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	914	153CONSS01		ST	0
258)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	914	153LITHL01		RESID	0
259)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	914	153MODIF01		MOT	0
260)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1067	152HABL002	20BL		0
261)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1067	152USCS 01		CL	0
262)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1067	152COLOR01		25YR460	
263)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1067	152MODIF01		MOT	0
264)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1067	152CONSS01		ST	0
265)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1067	152MOISC01		LM	0
266)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1067	152LITHL01		RESID	0
267)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153HABL002	21HL		0
268)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153USCS 01		CL	0
269)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153COLOR01		5YR56	0
270)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153CONSS01		ST	0
271)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153MOISC01		LM	0
272)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153LITHL01		RESID	0
273)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153MODIF01		PL	0
274)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1219	153MODIF01		MOT	0
275)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	42HABL002	47BL		0

(	276)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	43USCS 01		CL	0
(	277)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	43COLOR01		5YR46	0
(	278)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	43CONSS01		ST	0
(	279)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	43MOISC01		LM	0
(	280)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	43LITHL01		RESID	0
(	281)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	43MODIF01		MOT	0
(	282)	ALSAGFDBOREC-3A	1332481015C-3A	ESWDA	1372	43MODIF01		WLAM	0
(	283)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA		DPTOT01	762CM		0
(	284)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	732	30SCREN01			0
(	285)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	686	76SFILT01			0
(	286)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	573	113BSEAL01			0
(	287)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	0	573GROUT01			0
(	288)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA		STKUP01	91CM		0
(	289)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	0	152USCS 01		CL	0
(	290)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	0	152COLOR01		10R58	0
(	291)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	0	152CONSS01		ST	0
(	292)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	0	152MOISC01		DRY	0
(	293)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	0	152LITHL01		RESID	0
(	294)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	152	153HABL002	23BL		0
(	295)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	152	153USCS 01		CL	0
(	296)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	152	153COLOR01		10R46	0
(	297)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	152	153CONSS01		ST	0
(	298)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	152	153MOISC01		DRY	0
(	299)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	152	153LITHL01		RESID	0
(	300)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	305	152HABL002	35BL		0
(	301)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	305	152USCS 01		CL	0
(	302)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	305	152COLOR01		10R48	0
(	303)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	305	152CONSS01		ST	0
(	304)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	305	152MOISC01		DRY	0
(	305)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	305	152LITHL01		RESID	0
(	306)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	457	153HABL002	34BL		0
(	307)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	457	153USCS 01		CL	0
(	308)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	457	153COLOR01		10R48	0
(	309)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	457	153CONSS01		ST	0
(	310)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	457	153MOISC01		LM	0
(	311)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	457	153LITHL01		RESID	0
(	312)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	610	106HABL002	39BL		0
(	313)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	610	106USCS 01		CL	0
(	314)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	610	106COLOR01		10YR66	0
(	315)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	610	106CONSS01		ST	0
(	316)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	610	106MOISC01		LM	0
(	317)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	610	106LITHL01		RESID	0
(	318)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	716	46HABL002	25BL		0
(	319)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	716	46USCS 01		CL	0
(	320)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	716	46COLOR01		10YR66	0
(	321)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	716	46CONSS01		ST	0
(	322)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	716	46MOISC01		LM	0
(	323)	ALSAGFDBOREC-3B	1336081015C-3B	ESWDA	716	46LITHL01		RESID	0
(	324)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA		DPTOT01	1067CM		0
(	325)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1013	303CREN01			0
(	326)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	945	99SFILT01			0
(	327)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	632	113BSEAL01			0
(	328)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	0	872GROUT01			0
(	329)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1044	23FILL 01			0
(	330)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA		STKUP01	94CM		0

Land surface elevation

331)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	0	152USCS 01		CL	0
332)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	0	152COLOR01		10R58	0
333)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	0	152CONSS01		ST	0
334)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	0	152MOISC01		DRY	0
335)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	0	152LITHL01		RESID	0
336)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	152	153HABL002	23BL		0
337)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	152	153USCS 01		CL	0
338)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	152	153COLOR01		10R46	0
339)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	152	153CONSS01		ST	0
340)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	152	153MOISC01		DRY	0
341)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	152	153LITHL01		RESID	0
342)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	305	152HABL002	35BL		0
343)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	305	152USCS 01		CL	0
344)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	305	152COLOR01		10R48	0
345)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	305	152CONSS01		ST	0
346)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	305	152MOISC01		DRY	0
347)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	305	152LITHL01		RESID	0
348)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	457	153HABL002	34BL		0
349)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	457	305USCS 01		CL	0
350)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	457	153COLOR01		10R48	0
351)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	457	153CONSS01		ST	0
352)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	457	153MOISC01		LM	0
353)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	457	153LITHL01		RESID	0
354)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	610	152HABL002	39BL		0
355)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	610	152COLOR01		10YR660	
356)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	610	152CONSS01		ST	0
357)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	610	152MOISC01		LM	0
358)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	610	152LITHL01		RESID	0
359)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	762	152HABL002	25BL		0
360)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	762	152USCS 01		CL	0
361)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	762	152COLOR01		10YR660	
362)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	762	152CONSS01		ST	0
363)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	762	152MOISC01		LM	0
364)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	762	152LITHL01		RESID	0
365)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	914	107HABL002	27BL		0
366)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	914	107USCS 01		CL	0
367)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	914	107COLOR01		25YR460	
368)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	914	107MOISC01		LM	0
369)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	914	107CONSS01		ST	0
370)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	914	107LITHL01		RESID	0
371)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1021	46HABL002	20BL		0
372)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1021	46USCS 01		CL	0
373)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1021	46COLOR01		25YR460	
374)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1021	46CONSS01		ST	0
375)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1021	46MOISC01		LM	0
376)	ALSAGFDBOREC-3C	1338681016C-3C	ESWDA	1021	46LITHL01		RESID	0
377)	ALSAGFDBOREP-31	1280181035P-31	ESWDA		DPTOT01	853CM		0
378)	ALSAGFDBOREP-31	1280181035P-31	ESWDA	828	25FILL 01			0
379)	ALSAGFDBOREP-31	1280181035P-31	ESWDA	218	610SCREN01			0
380)	ALSAGFDBOREP-31	1280181035P-31	ESWDA	76	752SFILT01			0
381)	ALSAGFDBOREP-31	1280181035P-31	ESWDA	46	30HSEAL01			0
382)	ALSAGFDBOREP-31	1280181035P-31	ESWDA	0	46GROUT01			0
383)	ALSAGFDBOREP-31	1280181035P-31	ESWDA		STKUP01	86CM		0
384)	ALSAGFDBOREP-31	1280181035P-31	ESWDA		RFUSL01	853CM		0
385)	ALSAGFDBOREP-31	1280181035P-31	ESWDA	[illegible]	137USCS 01		CL	0

2.82 ft.

Land surface elevation

(	386)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	0	137COLOR01		10YR660
(	387)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	0	137CONSS01		SO 0
(	388)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	0	137MOISC01		MOIST 0
(	389)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	0	137LITHL01		RESID 0
(	390)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	0	137MODIF01		PL 0
(	391)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	137	153HABL002	68BL	0
(	392)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	137	153USCS 01		CL 0
(	393)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	137	153COLOR01		10YR840
(	394)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	137	153CONSS01		ST 0
(	395)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	137	153MOISC01		DRY 0
(	396)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	137	153LITHL01		RESID 0
(	397)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	137	153MODIF01		PL 0
(	398)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	290	152HABL002	36BL	0
(	399)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	290	152USCS 01		CL 0
(	400)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	290	152COLOR01		75YR780
(	401)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	290	152COLOR01		75YR780
(	402)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	290	152CONSS01		ST 0
(	403)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	290	152MOISC01		MOIST 0
(	404)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	290	152LITHL01		RESID 0
(	405)	ALSAGFDBOREP-31	419.92 ft.	1280181035P-31	ESWDA	290	152MODIF01		PL 0
(	406)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152HABL002	16BL	0
(	407)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152USCS 01		CL 0
(	408)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152CONSS01		ST 0
(	409)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152MOISC01		MOIST 0
(	410)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152COLOR01		10YR780
(	411)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152MODIF01		MOT 0
(	412)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152LITHL01		RESID 0
(	413)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	442	152MODIF01		PL 0
(	414)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	594	153HABL002	5BL	0
(	415)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	594	153USCS 01		CL 0
(	416)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	594	153COLOR01		10YR780
(	417)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	594	153CONSS01		ST 0
(	418)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	594	153MOISC01		MOIST 0
(	419)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	594	153LITHL01		RESID 0
(	420)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	747	106HABL002	0BL	0
(	421)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	747	106USCS 01		CL 0
(	422)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	747	106COLOR01		10YR8P0
(	423)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	747	106CONSS01		ST 0
(	424)	ALSAGFDBOREP-31	423.78 ft.	1280181035P-31	ESWDA	747	106MOISC01		VMOISTO
(	425)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	747	45LITHL01		RESID 0
(	426)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	747	106MODIF01		PL 0
(	427)	ALSAGFDBOREP-31		1280181035P-31	ESWDA	792	61LITHL01		LMSN 0
(	428)	ALSAGFDBOREP-32		1291781036P-32	ESWDA		DPTOT01	747CM	0
(	429)	ALSAGFDBOREP-32		1291781036P-32	ESWDA		RFUSL01	747CM	0
(	430)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	722	25FILL 01		0
(	431)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	250	472SCREN01		0
(	432)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	145	578SFILT01		0
(	433)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	61	84PSEAL01		0
(	434)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	0	61GROUT01		0
(	435)	ALSAGFDBOREP-32		1291781036P-32	ESWDA		STKUP01	45CM	0
(	436)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	0	137USCS 01		CL 0
(	437)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	0	137COLOR01		75YR780
(	438)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	0	137MODIF01		PL 0
(	439)	ALSAGFDBOREP-32		1291781036P-32	ESWDA	0	137MODIF01		WG 0
(	440)	ALSAGFDBOREP-32		12[illegible]-32	ESWDA	0	137CONSS01		ST 0

1.6 ft

441)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	0	137MOISC01		MOIST	0
442)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	0	137LITHL01		RESID	0
443)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	137	153HABL002	32BL		0
444)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	137	153USCS 01		CL	0
445)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	137	153MODIF01		PL	0
446)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	137	153COLOR01		10YR660	
447)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	137	153CONSS01		ST	0
448)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	137	153MOISC01		DRY	0
449)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	137	153LITHL01		RESID	0
450)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	290	152HABL002	54BL		0
451)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	290	152USCS 01		CL	0
452)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	290	152MODIF01		PL	0
453)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	290	152COLOR01		10YR680	
454)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	290	152CONSS01		VST	0
455)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	290	152MOISC01		MOIST	0
456)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	290	152LITHL01		RESID	0
457)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	152HABL002	3BL		0
458)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	305USCS 01		CL	0
459)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	305MODIF01		PL	0
460)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	305MODIF01		MOT	0
461)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	305COLOR01		10YR660	
462)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	305CONSS01		ST	0
463)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	152MOISC01		MOIST	0
464)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	442	305LITHL01		RESID	0
465)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	594	153HABL002	10BL		0
466)	ALSAGFDBOREP-32	1291781036P-32	ESWDA	594	153MOISC01		WET	0
467)	ALSAGFDBOREP-35	1282681023P-35	ESWDA		DPTOT01	1295CM		0
468)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1280	15FILL 01			0
469)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	671	610SCREN01			0
470)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	579	488SFILT01			0
471)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	472	107BSEAL01			0
472)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	0	472GROUT01			0
473)	ALSAGFDBOREP-35	1282681023P-35	ESWDA		STKUP01	91CM		0
474)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	0	152USCS 01		CL	0
475)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	0	152MODIF01		PL	0
476)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	0	152COLOR01		5YR58	0
477)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	0	152CONSS01		ST	0
478)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	0	152MOISC01		LM	0
479)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	0	152LITHL01		RESID	0
480)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	152	153HABL002	24BL		0
481)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	152	153USCS 01		CL	0
482)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	152	153MODIF01		PL	0
483)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	152	153COLOR01		10YR780	
484)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	152	153CONSS01		ST	0
485)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	152	153MOISC01		LM	0
486)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	152	153LITHL01		RESID	0
487)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152HABL002	15BL		0
488)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152USCS 01		CL	0
489)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152MODIF01		PL	0
490)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152MODIF01		MOT	0
491)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152COLOR01		10YR780	
492)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152CONSS01		ST	0
493)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152MOISC01		LM	0
494)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	305	152LITHL01		RESID	0
495)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153HABL002	11BL		0

420.80

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496)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153USCS 01		CL	0
497)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153MODIF01		PL	0
498)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153MODIF01		MOT	0
499)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153COLOR01		10YR780	
500)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153CONSS01		ST	0
501)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153MOISC01		LM	0
502)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	457	153LITHL01		RESID	0
503)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	610	152HABL002	12BL		0
504)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	610	152USCS 01		CL	0
505)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	610	152MODIF01		PL	0
506)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	610	152COLOR01		10YR780	
507)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	610	152CONSS01		ST	0
508)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	610	152MOISC01		LM	0
509)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	610	152LITHL01		RESID	0
510)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	152HABL002	14BL		0
511)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	305USCS 01		CL	0
512)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	305MODIF01		PL	0
513)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	305MODIF01		SS	0
514)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	305COLOR01		10YR780	
515)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	305CONSS01		ST	0
516)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	305MOISC01		LM	0
517)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	762	305LITHL01		RESID	0
518)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	914	153HABL002	18BL		0
519)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152HABL002	7BL		0
520)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152USCS 01		CL	0
521)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152MODIF01		MOT	0
522)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152MODIF01		SS	0
523)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152MODIF01		PL	0
524)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152COLOR01		10YR680	
525)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152CONSS01		ST	0
526)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152MOISC01		LM	0
527)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1067	152LITHL01		RESID	0
528)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76HABL002	5BL		0
529)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76USCS 01		CL	0
530)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76MODIF01		PL	0
531)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76MODIF01		MOT	0
532)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76COLOR01		10YR660	
533)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76CONSS01		ST	0
534)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76MOISC01		VMOIST	0
535)	ALSAGFDBOREP-35	1282681023P-35	ESWDA	1219	76LITHL01		RESID	0
536)	ALSAGFDBOREP-36	1296781021P-36	ESWDA		DPTOT01	960CM		0
537)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46FILL 01			0
538)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	610SCREN01			0
539)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	213	701SFILT01			0
540)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	122	91BSEAL01			0
541)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	122GROUT01			0
542)	ALSAGFDBOREP-36	1296781021P-36	ESWDA		STKUP01	61CM		0
543)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	152USCS 01		CL	0
544)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	152MODIF01		PL	0
545)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	152COLOR01		25YR580	
546)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	152MODIF01		WLAM	0
547)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	152CONSS01		SO	0
548)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	152MOISC01		LM	0
549)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	0	152LITHL01		RESID	0
550)	ALSAGFDBOREP-36	12967[illegible]P-36	ESWDA	15[illegible]	153HABL002	15BL		0

425.43

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551)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	152	153USCS 01		CL	0
552)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	152	153MODIF01		MOT	0
553)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	152	153COLOR01		PURPLE	0
554)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	152	153CONSS01		SO	0
555)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	152	153MOISC01		LM	0
556)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	152	153LITHL01		RESID	0
557)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	152HABL002	11BL		0
558)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	152USCS 01		CL	0
559)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	152MODIF01		MOT	0
560)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	152COLOR01		PURPLE	0
561)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	152CONSS01		SO	0
562)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	152MOISC01		LM	0
563)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	305	152LITHL01		RESID	0
564)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153HABL002	19BL		0
565)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153USCS 01		CL	0
566)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153MODIF01		PL	0
567)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153MODIF01		MOT	0
568)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153COLOR01		5YR68	0
569)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153CONSS01		M	0
570)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153MOISC01		WET	0
571)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	457	153LITHL01		RESID	0
572)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152HABL002	18BL		0
573)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152USCS 01		CL	0
574)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152MODIF01		PL	0
575)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152MODIF01		MOT	0
576)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152COLOR01		PURPLE	0
577)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152CONSS01		M	0
578)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152MOISC01		WET	0
579)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	610	152LITHL01		RESID	0
580)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152HABL002	15BL		0
581)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152USCS 01		CL-SC	0
582)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152MODIF01		PL	0
583)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152MODIF01		MOT	0
584)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152COLOR01		PURPLE	0
585)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152CONSS01		M	0
586)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152MOISC01		WET	0
587)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	762	152LITHL01		RESID	0
588)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46HABL002	23BL		0
589)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46USCS 01		CL	0
590)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46MODIF01		PL	0
591)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46MODIF01		MOT	0
592)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46COLOR01		PURPLE	0
593)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46CONSS01		M	0
594)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46MOISC01		WET	0
595)	ALSAGFDBOREP-36	1296781021P-36	ESWDA	914	46LITHL01		RESID	0
596)	ALSAGFDBOREP-37	1296881016P-37	ESWDA		DPTOT01	853CM		0
597)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	686	168FILL 01			0
598)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	655	3JBSEAL01			0
599)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	122	533SFILT01			0
600)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	61	61BSEAL01			0
601)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	0	61GROUT01			0
602)	ALSAGFDBOREP-37	1296881016P-37	ESWDA		STKUP01	61CM		0
603)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	0	152USCS 01		CL	0
604)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	0	152MODIF01		PL	0
605)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	0	152COLOR01		PURPLE	0

1125.46

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(	606)	ALSAGFDBOREP-37	1296881016F-37	ESWDA	0	152CONSS01		M	0
(	607)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	0	152MOISC01		DRY	0
(	608)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	0	853LITHL01		RESID	0
(	609)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	152	153USCS 01		CL	0
(	610)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	152	153MODIF01		PL	0
(	611)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	152	153COLOR01		PURPLE	0
(	612)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	152	153CONSS01		M	0
(	613)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	152	153MOISC01		DRY	0
(	614)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	305	152USCS 01		CL	0
(	615)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	305	152MODIF01		PL	0
(	616)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	305	152COLOR01		PURPLE	0
(	617)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	305	152CONSS01		M	0
(	618)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	305	152MOISC01		DRY	0
(	619)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	457	153USCS 01		CL-SC	0
(	620)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	457	153COLOR01		PURPLE	0
(	621)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	457	153CONSS01		D	0
(	622)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	457	153MOISC01		DRY	0
(	623)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	610	152USCS 01		CL	0
(	624)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	610	152MODIF01		PL	0
(	625)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	610	152COLOR01		PURPLE	0
(	626)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	610	152CONSS01		D	0
(	627)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	610	152MOISC01		LM	0
(	628)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	762	91USCS 01		CL	0
(	629)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	762	91MODIF01		PL	0
(	630)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	762	91MODIF01		ODOR	0
(	631)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	762	91COLOR01		PURPLE	0
(	632)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	762	91CONSS01		D	0
(	633)	ALSAGFDBOREP-37	1296881016P-37	ESWDA	762	91MOISC01		LM	0
(	634)	ALSAGFDBOREP-37	1296881016P-37	ESWDA		RFUSL01	853CM		0
(	635)	ALSAGFDBOREP-39	1309381027P-39	ESWDA		DPTOT01	828CM		0
(	636)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	219	610SCREN01			0
(	637)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	162	667SFILT01			0
(	638)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	101	61BSEAL01			0
(	639)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	0	61GROUT01			0
(	640)	ALSAGFDBOREP-39	1309381027P-39	ESWDA		STKUP01	86CM		0
(	641)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	0	152USCS 01		CL	0
(	642)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	0	152MODIF01		PL	0
(	643)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	0	152COLOR01		75YR68	0
(	644)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	0	152CONSS01		M	0
(	645)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	0	152MOISC01		MOIST	0
(	646)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	0	152LITHL01		RESID	0
(	647)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	152	153HABL002	42BL		0
(	648)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	152	153USCS 01		CL	0
(	649)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	152	153MODIF01		PL	0
(	650)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	152	153COLOR01		75YR68	0
(	651)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	152	153CONSS01		M	0
(	652)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	152	153MOISC01		MOIST	0
(	653)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	152	153LITHL01		RESID	0
(	654)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	305	152HABL002	27BL		0
(	655)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	305	152USCS 01		CL	0
(	656)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	305	152MODIF01		PL	0
(	657)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	305	152COLOR01		5YR58	0
(	658)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	305	152CONSS01		M	0
(	659)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	305	152MOISC01		MOIST	0
(	660)	ALSAGFDBOREP-39	1309[illegible]7P-39	ESWDA	305	152LITHL01		RESID	0

429.56

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(	661)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153HABL002	19BL		0
(	662)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153USCS 01		CL	0
(	663)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153MODIF01		PL	0
(	664)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153MODIF01		MOT	0
(	665)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153COLOR01		5YR58	0
(	666)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153CONSS01		M	0
(	667)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153MOISC01		MOIST	0
(	668)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	457	153LITHL01		RESID	0
(	669)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91HABL002	18BL		0
(	670)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91USCS 01		CL	0
(	671)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91MODIF01		PL	0
(	672)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91MODIF01		MOT	0
(	673)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91COLOR01		5YR58	0
(	674)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91CONSS01		SO	0
(	675)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91MOISC01		MOIST	0
(	676)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	610	91LITHL01		RESID	0
(	677)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	701	61USCS 01		CL	0
(	678)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	701	61MODIF01		PL	0
(	679)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	701	61COLOR01		75YR68	0
(	680)	ALSAGFDBOREP-39	1309381027P-39	ESWDA	701	61CONSS01		SO	0
(	681)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	701	61MOISC01		WET	0
(	682)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	701	61LITHL01		RESID	0
(	683)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	762	91USCS 01		CL	0
(	684)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	762	91MODIF01		PL	0
(	685)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	762	91COLOR01		75YR68	0
(	686)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	762	91CONSS01		SO	0
(	687)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	762	91MOISC01		WET	0
(	688)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	762	61LITHL01		RESID	0
(	689)	ALSAGFDBOREP-39	1309381016P-39	ESWDA	823	30LITHL01		LMSN	0
(	690)	ALSAGFDBOREP-41	1295281026P-41	ESWDA		DPTOT01	625CM		0
(	691)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	320	305SCREN01			0
(	692)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	244	381SFILT01			0
(	693)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	152	91BSEAL01			0
(	694)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	0	152GROUT01			0
(	695)	ALSAGFDBOREP-41	1295281026P-41	ESWDA		STKUP01	30CM		0
(	696)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	0	137USCS 01		CL	0
(	697)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	0	137MODIF01		PL	0
(	698)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	0	137COLOR01		25YR48	0
(	699)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	0	137CONSS01		M	0
(	700)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	0	137MOISC01		DRY	0
(	701)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	0	137LITHL01		RESID	0
(	702)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	137	153HABL002	23BL		0
(	703)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	137	153USCS 01		CL	0
(	704)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	137	153MODIF01		PL	0
(	705)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	137	153COLOR01		10YR78	0
(	706)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	137	153CONSS01		ST	0
(	707)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	137	153MOISC01		MOIST	0
(	708)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	137	153LITHL01		RESID	0
(	709)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152HABL002	20BL		0
(	710)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152USCS 01		CL	0
(	711)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152MODIF01		PL	0
(	712)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152MODIF01		MOT	0
(	713)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152COLOR01		10YR78	0
(	714)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152CONSS01		ST	0
(	715)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152MOISC01		MOIST	0

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716)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	290	152LITHL01		RESID	0
717)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	442	152HABL002	6BL		0
718)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	442	152USCS 01		CL	0
719)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	442	152MODIF01		PL	0
720)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	442	152COLOR01		75YR780	
721)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	442	152CONSS01		ST	0
722)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	442	152MOISC01		VMOISTO	
723)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	442	152LITHL01		RESID	0
724)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	594	31USCS 01		CL	0
725)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	594	31MODIF01		PL	0
726)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	594	31COLOR01		5YR58	0
727)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	594	31CONSS01		ST	0
728)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	594	31MOISC01		VMOISTO	
729)	ALSAGFDBOREP-41	1295281026P-41	ESWDA	594	31LITHL01		RESID	0
730)	ALSAGFDBOREP-42	1359381028P-42	ESWDA		DPTOT01	1082CM		0
731)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	472	610SCREN01			0
732)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	366	716SFILT01			0
733)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	271	94BSEAL01			0
734)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	271GROUT01			0
735)	ALSAGFDBOREP-42	1359381028P-42	ESWDA		STKUP01	89CM		0
736)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	122USCS 01		CL	0
737)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	122MODIF01		PL	0
738)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	122MODIF01		RT	0
739)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	122COLOR01		25YR480	
740)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	122CONSS01		SO	0
741)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	122MOISC01		DRY	0
742)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	0	122LITHL01		RESID	0
743)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	122	152HABL002	29BL		0
744)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	122	152USCS 01		CL	0
745)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	122	152MODIF01		PL	0
746)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	122	152MODIF01		MOT	0
747)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	122	152COLOR01		10R48	0
748)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	122	152LITHL01		RESID	0
749)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	122	152MOISC01		LM	0
750)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153HABL002	18BL		0
751)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153USCS 01		CL	0
752)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153MODIF01		PL	0
753)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153MODIF01		MOT	0
754)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153COLOR01		10YR680	
755)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153CONSS01		VST	0
756)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153MOISC01		MOIST	0
757)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	274	153LITHL01		RESID	0
758)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152HABL002	17BL		0
759)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152USCS 01		CL	0
760)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152MODIF01		PL	0
761)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152MODIF01		MOT	0
762)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152COLOR01		10R48	0
763)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152CONSS01		VST	0
764)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152MOISC01		MOIST	0
765)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	427	152LITHL01		RESID	0
766)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	579	153HABL002	16BL		0
767)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	579	153USCS 01		CL	0
768)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	579	153MODIF01		PL	0
769)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	579	153COLOR01		5YR68	0
770)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	579	153CONSS01		VST	0

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771)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	579	153MOISC01		MOIST	0
772)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	579	153LITHL01		RESID	0
773)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152HABL002	3BL		0
774)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152USCS 01		CL	0
775)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152MODIF01		PL	0
776)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152MODIF01		MOT	0
777)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152COLOR01		5YR68	0
778)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152CONSS01		VST	0
779)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152MOISC01		MOIST	0
780)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	732	152LITHL01		RESID	0
781)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	884	152USCS 01		CL	0
782)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	884	152MODIF01		PL	0
783)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	884	152COLOR01		75YR78	0
784)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	884	152CONSS01		SO	0
785)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	884	152MOISC01		VMOIST	0
786)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	884	183LITHL01		RESID	0
787)	ALSAGFDBOREP-42	1359381028P-42	ESWDA	1067	15LITHL01		DLMT	0
788)	ALSAGFDBOREP-44	1316981028P-44	ESWDA		DPTOT01	1554CM		0
789)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1433	122FILL 01			0
790)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	518	914SCREN01			0
791)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	427	792SFILT01			0
792)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	323	104BSEAL01			0
793)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	323GROUT01			0
794)	ALSAGFDBOREP-44	1316981028P-44	ESWDA		STKUP01	91CM		0
795)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	137USCS 01		CL	0
796)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	137MODIF01		PL	0
797)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	137MODIF01		RT	0
798)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	137COLOR01		25YR46	0
799)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	137CONSS01		SO	0
800)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	137MOISC01		LM	0
801)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	0	137LITHL01		RESID	0
802)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	137	153HABL002	24BL		0
803)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	137	153USCS 01		CL	0
804)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	137	153MODIF01		PL	0
805)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	137	153COLOR01		5YR68	0
806)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	137	153CONSS01		M	0
807)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	137	153MOISC01		MOIST	0
808)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	137	153LITHL01		RESID	0
809)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	290	152HABL002	18BL		0
810)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	290	152USCS 01		CL	0
811)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	290	152MODIF01		PL	0
812)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	290	152COLOR01		75YR78	0
813)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	290	152CONSS01		M	0
814)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	290	152MOISC01		MOIST	0
815)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	290	152LITHL01		RESID	0
816)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	442	152HABL002	21BL		0
817)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	442	152USCS 01		CL	0
818)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	442	152MODIF01		PL	0
819)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	442	152COLOR01		5YR56	0
820)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	442	152CONSS01		M	0
821)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	442	152MOISC01		MOIST	0
822)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	442	152LITHL01		RESID	0
823)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153HABL002	17BL		0
824)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153USCS 01		CL	0
825)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153MODIF01		PL	0

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826)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153MODIF01		MOT	0
827)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153COLOR01		25YR580	
828)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153CONSS01		VST	0
829)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153MOISC01		MOIST	0
830)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	594	153LITHL01		RESID	0
831)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	747	152HABL002	9BL		0
832)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	747	152USCS 01		CL	0
833)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	747	152MODIF01		PL	0
834)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	747	152LITHL01		RESID	0
835)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	747	10COLOR01		10YR880	
836)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	747	10CONSS01		M	0
837)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	747	10MOISC01		VMOISTO	
838)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	757	142COLOR01		25YR460	
839)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	757	142CONSS01		VST	0
840)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	757	142MOISC01		MOIST	0
841)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	899	153HABL002	15BL		0
842)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	899	153USCS 01		CL	0
843)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	899	153MODIF01		PL	0
844)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	899	153COLOR01		5YR66	0
845)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	899	153CONSS01		VST	0
846)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	899	153MOISC01		MOIST	0
847)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	899	153LITHL01		RESID	0
848)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1052	152HABL002	13BL		0
849)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1052	152USCS 01		CL-SC	0
850)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1052	152MODIF01		PL	0
851)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1052	152COLOR01		25Y74	0
852)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1052	152CONSS01		SO	0
853)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1052	152MOISC01		MOIST	0
854)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1052	152LITHL01		RESID	0
855)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1204	152HABL002	7BL		0
856)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1204	152USCS 01		CL	0
857)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1204	152MODIF01		PL	0
858)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1204	152COLOR01		5YR68	0
859)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1204	152CONSS01		SO	0
860)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1204	152MOISC01		MOIST	0
861)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1204	152LITHL01		RESID	0
862)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1356	153HABL002	13BL		0
863)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1356	153USCS 01		CL	0
864)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1356	153MODIF01		PL	0
865)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1356	153COLOR01		75YR560	
866)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1356	153CONSS01		M	0
867)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1356	153MOISC01		MOIST	0
868)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1356	153LITHL01		RESID	0
869)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1509	45USCS 01		SC	0
870)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1509	45COLOR01		10YR660	
871)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1509	45CONSS01		SO	0
872)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1509	45MOISC01		VMOISTO	
873)	ALSAGFDBOREP-44	1316981028P-44	ESWDA	1509	45LITHL01		RESID	0
874)	ALSAGFDBOREP-46	1322981033P-46	ESWDA		DPTOT01	1113CM		0
875)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1052	61FILL 01			0
876)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	442	61BSCRFN01			0
877)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	390	661SFILT01			0
878)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	296	151BSEAL01			0
879)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	0	[illegible]GROUT01			0
880)	ALSAGFDBOREP-46	1322981033P-46	ESWDA		STKUP01	[illegible]RCM		0

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881)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	0	152USCS 01		CL 0
882)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	0	152MODIF01		FL 0
883)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	0	152COLOR01		5YR58 0
884)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	0	152CONSS01		SO 0
885)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	0	152MOISC01		MOIST 0
886)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	0	152LITHL01		RESID 0
887)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	152	153HABL002	39BL	0
888)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	152	153USCS 01		CL 0
889)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	152	153MODIF01		PL 0
890)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	152	153COLOR01		75YR680
891)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	152	153CONSS01		M 0
892)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	152	153MOISC01		MOIST 0
893)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	152	153LITHL01		RESID 0
894)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	305	152USCS 01		CL 0
895)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	305	152MODIF01		PL 0
896)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	305	152COLOR01		5YR68 0
897)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	305	152CONSS01		ST 0
898)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	305	152MOISC01		MOIST 0
899)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	305	152LITHL01		RESID 0
900)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153HABL002	29BL	0
901)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153USCS 01		CL 0
902)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153MODIF01		PL 0
903)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153MODIF01		MOT 0
904)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153COLOR01		5YR68 0
905)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153CONSS01		ST 0
906)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153MOISC01		MOIST 0
907)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	457	153LITHL01		RESID 0
908)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	610	152HABL002	30BL	0
909)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	610	152USCS 01		CL 0
910)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	610	152MODIF01		PL 0
911)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	610	152COLOR01		75YR560
912)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	610	152CONSS01		M 0
913)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	610	152MOISC01		MOIST 0
914)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	610	152LITHL01		RESID 0
915)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	762	152HABL002	35BL	0
916)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	762	152USCS 01		CL 0
917)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	762	152MODIF01		PL 0
918)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	762	152COLOR01		75YR560
919)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	762	152CONSS01		M 0
920)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	762	152MOISC01		MOIST 0
921)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	762	152LITHL01		RESID 0
922)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	914	153HABL002	20BL	0
923)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	914	153USCS 01		CL 0
924)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	914	153MODIF01		PL 0
925)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	914	153COLOR01		75YR560
926)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	914	153CONSS01		M 0
927)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	914	153MOISC01		MOIST 0
928)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	914	153LITHL01		RESID 0
929)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1067	46HABL002	21BL	0
930)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1067	46USCS 01		CL 0
931)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1067	46MODIF01		PL 0
932)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1067	46COLOR01		75YR560
933)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1067	46CONSS01		M 0
934)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1067	46MOISC01		MOIST 0
935)	ALSAGFDBOREP-46	1322981033P-46	ESWDA	1067	46LITHL01		RESID 0

(	936)	ALSAGFDBOREP-48	1314081040P-48	ESWDA		DPTOT01	140CM		0
(	937)	ALSAGFDBOREP-48	1314081040P-48	ESWDA		RFUSL01	140CM		0
(	938)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	61	79SFILT01			0
(	939)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	79	61SCREN01			0
(	940)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	46	15BSEAL01			0
(	941)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	0	46GROUT01			0
(	942)	ALSAGFDBOREP-48	1314081040P-48	ESWDA		STKUP01	96CM		0
(	943)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	0	61USCS 01		CL	0
(	944)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	0	61MODIF01		PL	0
(	945)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	0	61COLOR01		75YR540	
(	946)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	0	61CONSS01		M	0
(	947)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	0	61MOISC01		DRY	0
(	948)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	0	61LITHL01		RESID	0
(	949)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	61	79USCS 01		CL	0
(	950)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	61	79MODIF01		PL	0
(	951)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	61	79COLOR01		75YR780	
(	952)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	61	79CONSS01		M	0
(	953)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	61	79MOISC01		MOIST	0
(	954)	ALSAGFDBOREP-48	1314081040P-48	ESWDA	61	79LITHL01		RESID	0

431.16

3.16